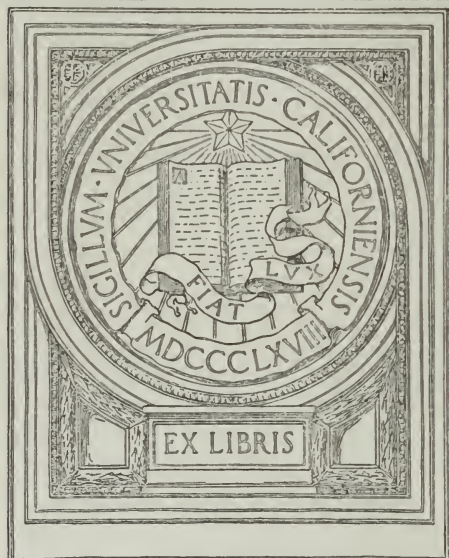


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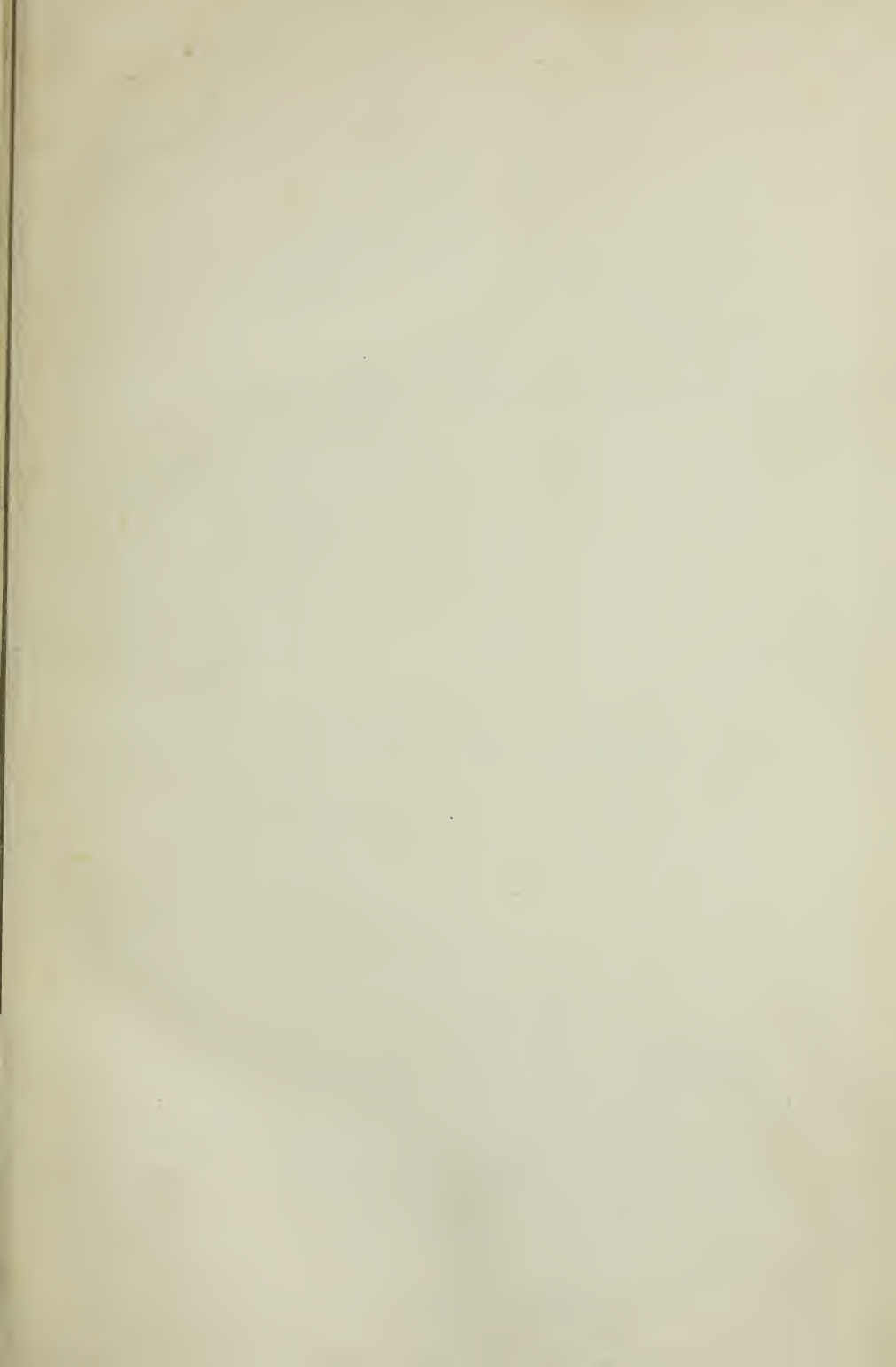
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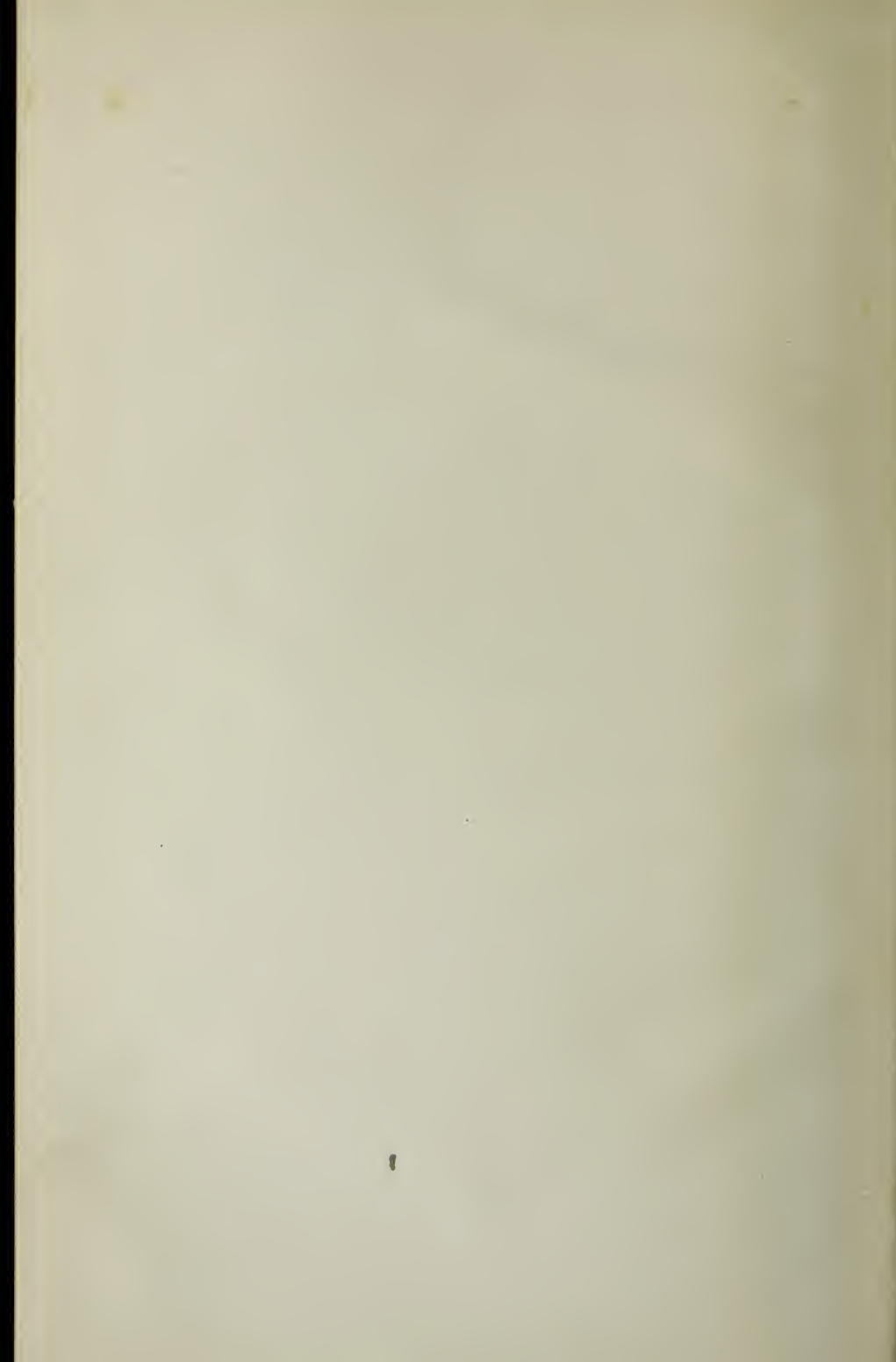
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NERVOUS AND MENTAL DISEASE MONOGRAPH SERIES No. 41

Psychiatric Society of New York

Studies in Psychiatry

VOL. II

By

Members of the New York Psychiatrical Society

NERVOUS AND MENTAL DISEASE PUBLISHING COMPANY
WASHINGTON AND NEW YORK

1925

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Edited by
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PREFACE

The New York Psychiatric Society was initiated in 1903. It was founded as and has remained of a semi-private character. Four meetings a year have been held and the programs of these have been incorporated into the present volume. Only a few of the papers read have been here reproduced. They represent, for the most part, the response to a general invitation of the publication committee for contributions, which no doubt would have been more representative of the work of the Society had not the many economic disturbances in the printing trades interfered with the appearance of this volume, thus unduly delaying the publication.

SMITH ELY JELLIFFE, *Chairman,*
STEWART PATON,
CHARLES I. LAMBERT,
Publication Committee.



TABLE OF CONTENTS

	PAGE
1. LIST OF PAPERS READ.....	1
2. PSYCHOPATHIC CHILDREN. By L. Pierce Clark.....	5
3. OBJECTIVE PSYCHOLOGY OR PSYCHOBIOLOGY. By Adolf Meyer.....	29
4. THE TREATMENT OF CASES OF MENTAL DISORDER IN GENERAL HOSPITALS. By P. C. Knapp.....	37
5. ON THE MECHANISM OF CONVULSIVE PHENOMENA AND ALLIED SYMPTOMS. By C. Macfie Campbell.....	49
6. CLINICAL AND ANATOMICAL FEATURES OF ALZHEIMER'S DISEASE. By Charles I. Lambert	59
7. A CASE OF CHILDHOOD CONFLICTS. By C. Macfie Campbell.....	87
8. SOME THERAPEUTIC CONSIDERATIONS OF PERIODIC MENTAL DEPRESSIONS. By L. Pierce Clark	111
9. ON THE MECHANISM OF SOME CASES OF MANIC-DEPRESSIVE EXCITEMENT. By C. Macfie Campbell.....	127
10. SYNOPSIS OF THE HISTORY OF A CASE IN WHICH THE COURT RUSHES IN WHERE PHYSICIANS FEAR TO TREAD. By M. C. Ashley.....	151
11. A PSYCHOLOGICAL STUDY OF STEALING IN JUVENILE DELINQUENCY. By L. Pierce Clark	161
12. A NEUROPSYCHIATRIC PILGRIMAGE. By Smith Ely Jelliffe.....	177
13. PALEOPSYCHOLOGY. By Smith Ely Jelliffe.....	215

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PSYCHOPATHIC CHILDREN *

WHAT NEW YORK CITY IS DOING FOR THEM

By L. PIERCE CLARK, M.D.

NEW YORK

In order that one may understand the motives in the present movement to study and prevent the psychopathics of children, we should see clearly the reasons for such work. The psychiatrist has long realized that out of the earliest maladaptations of the precoc and many allied states, much of the symptomatology and innate defects of the patient have flowed, and that more intensive study of child, and even infantile life is necessary to understand properly and gauge the psychiatric issues concerned. The trends in this direction are well shown in Meyer's precoc studies, and Hoch's effort to elucidate the developmental facts in his personality studies. Those of us more immediately concerned with the interpretation and treatment of functional nervous disorders, such as the psychoneuroses, have realized the absolute necessity of a knowledge of the subsoil of habit, manners, and conduct in the neurotic makeup, as well as in the normal child. Nor have physicians alone awakened to this new task; indeed, many still do not recognize the enormous importance of the problem. Many educators, however, are awakening to the fact that modern education calls for a more individualized approach to child development and that it is one of the chief functions of an educational system to study the particular child and help him to adapt his innate powers to his environment and life work. In order to do this, it is essential that we take a better inventory of the child's native ability and temperament. Too much stress has been laid in the past upon purely intellectual traits; the whole emotional control of the mental faculties has been left to the parents and to society in general. The vitalizing power of initiative, interest, and attention, the essential moving qualities embraced in the affective side of the mind, the emotions, must form an integral part of future education. There can be no proper education against the stream or trends of interest. One may say fairly that educational needs have furnished the main incentive to the

* Read before the New York Psychiatric Society, November 5, 1913.

abstract though necessary studies of child psychology for the past two decades. The practical value from these studies in child psychology has not been so very great, inasmuch as the educators' real needs are to know the biogenetic causes or sources of developmental trends, the successive stages of their development rather than isolated laboratory facts. It is safe to predict that the new and more practical studies of the psychopathies of children will meet our ends, and will do so in a somewhat similar manner to that by which knowledge, thought, and action of everyday life have been enriched by the study of the wider type of behavior and conduct in the mental disorders of adult life, wherein we now know that the once considered senseless behavior of the psychotic has a real significance with acts and thoughts of everyday life.

The importance of study of the nervous child is felt even more keenly by society at large independently of physician, educator, and psychologist. It is heralded by many interesting researches upon the nature and causes of vagrancy, crime, prostitution, and pauperism, the diseases of social life. We all meet, therefore, on a common ground in demanding enlightenment regarding normal and abnormal child behavior. The necessity for team work here is obvious. The alienist is not satisfied to look back upon and reconstruct the early youth of the patient whose mind in later years may have become irrevocably wrecked; the penologist and criminologist feel unable to set aright the innate trends of an adult criminal whose very foundations of perverted character, manner, and conduct were allowed to go unrecognized and uncorrected in earliest life, although many opportunities were in evidence.

The question is now pertinent, How are these needs to be met? How are these child studies to be made? Where can they be undertaken to best advantage? The large nerve clinics in the cities have not met our needs in the past, first, because physicians in charge are not trained to understand or get into sympathetic contact with child life. Then, too, proper facilities for the work are not at hand; we must know the family and environmental history, the setting in which the nervousness developed, and this requires the use of specially trained social workers, and investigators to go to the children's homes. Much time and patience are required to coördinate all these examinations. In time mental clinics which are now on the way will make this work one of the chief purposes of their existence. Means and efforts to promote human welfare and

happiness are the functions of physician and educator alike, as well as of those engaged in government. It is the early prevention of the nervousness of our modern life that is desired. We are but following the lines now laid down all along the road of modern progress in social science.

I believe that the schools are the place for the psychopathic clinics to study abnormal child life, and although it is not my purpose to review in detail the many reasons for forming these clinics in the public schools, I shall give a short account of the one just established by the New York Board of Education.

For several years a group of us had urged the Department of Education to form a mental clinic for the intensive study of abnormal children, such clinic to be not alone for the backward and mentally defective child, but for all the nervous and mentally disordered children who are hampered or prevented from obtaining an education, the inherent birthright of every American child.

On October 20, 1913, the Board of Education established such a clinic in connection with and under the general direction of the division of ungraded classes, as this department is the natural rallying point for all the neurotic types of children. The consulting staff is made up of experienced alienists, neurologists, educators, sociologists, and psychologists. Aside from a complete consulting staff as just detailed, two specially trained physicians and four social workers are employed by the board in full time service to this department, and more physicians and social workers are soon to be added to this permanent force. The city schools are districted, and the physicians analyze carefully all nervously abnormal children. The very difficult cases are referred directly to the main clinic, now in the Board of Education Building, and here they are to be exhaustively studied by all the best methods known to medical science. One member of the special board of consultants is in charge of the school clinic every afternoon of the school week.

It is generally recognized that the point of first importance in making a clinic of this sort is getting a good method of case examination and proper record filing, in order that the accumulated material may, in time be thoroughly studied. This task is primarily a medical one, and were there good studies of the psychopathies of children at hand, it would be easy. We have tentatively adopted, however, a system of examination and record which will be explained in detail at the end of this article.

Many may not know how rapidly and how far advanced the detection and the isolation of mentally variant children have advanced. There are to-day 175 classes for the special education of such children. About 2,700 pupils are now in these school classes. There are probably more than 4,000 more children of this type in Greater New York yet to be provided for, making a total of 7,000 children for analysis and school training. More ambitious estimates place the number of such pupils at double this amount. To meet this demand, at least 400 classes of the special type are required. The whole work has been the growth of but nine years. It was the first comprehensive effort to differentiate the kind of education for school children upon a basis of the psychic difference in children. In time it will be not only the most carefully elaborated system of education for the mentally backward, but it will greatly influence the further progress in the individualizing of all teaching, for the normal as well as the abnormal child.

Certain schools are to be set aside as veritable experimental stations to determine the best ways of educating the variant types in the abnormal group. They will be equipped with mental nurses and teachers, and we hope soon to have a resident school for more prolonged training treatment and observation of the more difficult children. It must not be supposed, as many think, that these special schools and the clinic are choked with the obviously imbecile and idiotic class; it is freely admitted by the Board of Education that this latter class should be transferred to state institutional care as rapidly as possible. There are three fairly well marked groups of children in the special classes. The first are the morons, or highest types of imbecility, a group which includes the mentally backward, who are not infrequently classed as feeble minded, and who, after correction of special sense defects and some forced individual mental and physical training, are returned again to the normal grades. There are many more of this class than one is apt to think. By confounding this group with the actually feeble minded, not a few educators and physicians have raised false hopes in the minds of the public that feeble mindedness can be removed or cured, which is obviously absurd. I shall take occasion later to describe some children of this group and make some comment upon the type.

It will confound many to learn that the age long dictum that feeble mindedness may be detected on sight alone no longer holds

true any more than that the insane can be recognized at sight. However true it may be that physicians long trained in institutional observation of the feeble minded are rarely ever misled in detecting the feeble minded, the same certainty of conclusion cannot be arrived at in many of the school cases. I will also cite a group of this type later.

The low grade imbeciles in the schools are easy to detect and will call for little study in the educational clinic. We shall, on the other hand, pay special attention to the borderline cases of mental defects and to the second great group of abnormal children, the *nervous* children, comprising those afflicted with hysteria, epilepsy, tics, obsessions, panics, and fears; the timid, shy, depressed, and excitable type. I may say in passing, that special conferences are held for discussing specific child studies and methods of training, and that a National Society for the Study of Normal and Abnormal Children is being founded, in which educators, physicians, and psychologists will be on equal footing in advancing this great work. One of the chief activities of the society will be to hold public meetings.

In many instances types of the mildest grades of feeble mindedness overlap the second group, the neurotics. This group of doubly handicapped children is, however, relatively small. The feeble minded child is looked upon as a defective individual, while the neurotic child is one in whom the mental state is disordered or deranged. I will soon give the history of a pure type of such a neurotic child. In the study of neurotic children we shall pay particular attention to the child's adaptations and adjustments in changing from the home to the school, which may be called the child's first great adaptation. The importance of this period is hardly to be overestimated; we believe that Spencer's designation that life is an inner adaptation to the outer world, makes the school adaptations a real test in child life, and counts much for its future usefulness in the world.

The third group we are to study, the delinquents, has in some instances a tinge of the color of feeble mindedness in its predominant makeup. It matters little to us whether one wishes to designate this group as the incipient criminal, or, in certain violent and assaultive cases, a form of masked epilepsy; as a body they form the antisocial borderland and inferiors of life—the liars, thieves, truants, and sex perverts. We shall strive as far as possible not to name

and pigeonhole delinquent children, but study the developmental instincts, the personality and character defects as *traits* or *trends*, and see how far a specific and detailed training and environmental treatment may change such abnormal children for the better.

In ultimate disposal of the frankly feeble minded and the vicious and delinquent classes, we hope for team work with the charity department of the city and the juvenile courts in order that our work may not be duplicated and that the best interests of the child and society may be protected and safeguarded. In point of numbers the obviously mentally deficient greatly outrank the other two classes, yet the others are by no means a negligible group and seem the less negligible now that society is realizing its essential duty to the delinquent and dependent classes.

No one as yet may say where the borderline lies between the wholly benign trends in a child's development and the wholly irremediable or malignant traits. It must be our special province to work to this end and ever strive to narrow the developmental forces whose enduring presence may spell the incurable neuroses or precocious dements of later life. We should do this for economic reasons, even if no higher motive may appeal to us.

At present no one is able to fathom the depth and breadth of the child mind and soul; no one has an exact panacea for its various disorders, no one may even classify the subtypes and the large loose groupings just given. On the other hand, we are all willing to study the individual types and varieties, and some time, sooner or later, we shall amass sufficient data upon which we may found a better understanding and training treatment of the nervous child.

If it has taken painstaking researches for years, since the time of Seguin and Itard, to make possible a comprehensive training, care, and treatment of the submental child, the feeble minded and imbecile class, how much greater must be the time and work required to formulate the proper guide rules of treatment for the neurotic child, wherein there is a disordered mind and psychic life to be set right, and not simply a constant and fixed deficit as in the mental defective. The frank submentals may be best treated and cared for in groups, as we all know they are essentially gregarious and develop best by imitative habits, while the neurotic child's difficulties are individual and must be studied and treated as such.

While it calls for little skill and training to determine the disposal of the frankly feeble minded, not a few of the borderline cases,

especially where marked neurotic trends are in evidence, will require more exact study, and to this end we hope to have some of the ungraded classes set aside for observation and special pedagogic training; furthermore, if necessary, residential schools will be provided to assist in determining the diagnosis and best methods of treatment of these children. Provisions of this latter sort are already serving a good purpose in many cities in Holland. Such schools can easily serve as stepping stones for pupils who must pass on to permanent custodial care in state institutions if their mental deficit proves irremediable. Further, the interrelationship of such residential schools and state institutions ought to be mutually helpful, for in the opinion of many keen observers the state institutions for the feeble minded have remained too long in isolation from the outside pedagogic world. Not that many of the principles of the ordinary training in the normal schools can be taken over by the state schools, for most of their inmates must lead an industrial life in shops or on farms, but inasmuch as an extensive try-out of manual and industrial training is being made in the public schools where financial support for such experimental pedagogics is readily supplied, the state institutions could profit much from a closer association than now obtains.

To summarize, then, all public schools in the large cities should have a department for clinical study of the frank psychopathies of school children, because the school is in close touch with the child and the parent, and enjoys the utmost confidence of the public. It has the training equipment, the personnel, and the financial support adequately to meet the issues concerned in understanding the nature and degree of retardation or perversion of mental development. The school should call for the coöperation of physicians, sociologists, and psychologists—specially trained pedagogues to unravel the difficulties of teaching psychopathic children. The whole scheme calls for our hearty support, as it is in line with the trend of the best thought to-day to study the beginnings of mental disorders in order that the best means may be forthcoming for preventing the nervous and mental disorders of adult life.

In order that one may understand our tentative plan of study of the individual child, a few notes will be given of the general routine inquiry of cases coming before the clinic.

First, the child's main difficulties are outlined, to find out whether these difficulties lie in the intellectual or the emotional field, such

as backwardness in certain studies, or whether he exhibits antisocial traits in the home, or at school, among his comrades, on the street, etc. These facts are briefly stated as a text for inquiry. Then follows a statement, more or less detailed, of the reasons for excluding him from the normal grade in school, which practically amounts to a categorical list of his intellectual and emotional deficiencies. In addition thereto, note is made of the kind of school work the child is best fitted to do, and what he shows the most liking for, it being recognized that the study in which indifference or disinclination is shown is the most hopeless. Miss Farrell, who is in charge of the ungraded classes, has planned to group delinquent children on the basis of their similarities of what they *can* or *like* to do, the *positive* characteristics, rather than upon the *negative* side of what they *cannot* do, as has obtained in many schools heretofore. The plan is a good one, and promises well in the constructive betterment of psychopathic children in general.

Next in the examination, a number of intellectual tests are employed, such as the Simon-Binet, the Healy puzzle board, etc. These are used only for more specific helps in detecting the more glaring defects, and to give the clue to finding the possible way to direct future plans of educational training, and although such tests are of great assistance, they have their definite limitations and often render one satisfied with but a superficial view of the case.

The examination then moves on to summarize the experimental and actual efforts of the child in the short period of study and observation in the ungraded classes. A family history follows, which is made up of data obtained from parents by the physician, and social workers who visit the children's homes. In dealing with functional nervous disorders in the clinic, it has been found best to inquire carefully into the character, temperament, adaptations, and adjustments of the individual members of the family, rather than to confine oneself to a mere detailing of definite disease entities, which latter procedure is insufficient in dealing with psychopathies of children, although the method may have been quite satisfactory in dealing with organic or structural diseases of the nervous system. Concerning some of the suspicious members of a family, a request for a brief account of their lives has been a help where dry questions have proved negative. There is no doubt in our minds that inquiries regarding the hereditary peculiarities of temperaments from which many of the psychoneuroses and antisocial trends of children flow,

will be the better understood when we direct the family inquiry upon traits or trends of conduct, the habits and behavior, and learn to avoid disease entity labels—in other words, we should strive to handle the psychopathies on their own plane of perversion of instincts and conduct, which is also the trend of investigative methods, in modern eugenic studies.

The personal history is next taken up in chronological order, and is largely confined to data concerning the physical development of the child. It has been found best to take up the mental development under the subsequent heading of *mental examination*.

The physical and neurological examination is similar to that pursued in any good clinic, and does not warrant being detailed here. While the greater stress is, obviously, laid upon the examination of the mental mechanisms concerned in the psychopathies, the bearing which physical conditions have in such disorders is always kept in mind, and careful note is made of them so that the investigation may be broad and comprehensive in future studies.

We now take up the mental examination. It is held that the first principle in the observation of psychic condition is to describe accurately, and to present the facts so they can be used in a reconstruction of the development of the disorder.

In speaking of the mental condition, we imply a very broad definition. We recognize by it the conditions of the functions of coördination and adaptation of the individual to the environment, with the help of the experience of the past, and the critical and imaginative use of this mental material. It concerns all the reactions which usually involve mental processes, not merely the abstract mental processes, but the entire biological reaction. In our description we endeavor to get unequivocal statements, learn to avoid all terms which are open to confusion, and wherever we are in any doubt about terms we strive to resort to a plain statement of events in simple, nontechnical language. This does not prevent the use, in our judgment, of all available knowledge, but keeps us from the effects of empty technical terms or phrases.

In order to get a clear picture of the condition, first, we endeavor to give each fact its proper value in the chain of cause and effect. While it is important to note that a patient does or says a certain thing, it is of more importance to state clearly the setting in which their utterances or acts occur; it is this which gives to their conduct the value of normality or abnormality. Hence, the important rule

in the record is, whenever it appears necessary to do so, one should give conversations in question and answer, or detail an act in the situation, on the ground that a reaction cannot be judged without a knowledge of the provoking agent. The questions are simple, comparable, as uniform as possible, and to the point, and, at times when we wish to get a reaction almost spontaneous, a mere "eh" or interjection helps along the current of speech. Above all things, we strive to make the general situation in which reactions occur quite plain, so that there may be no doubt as to the patient's attitude and to what he reacts.

The mental development of infancy and childhood is inquired into, first by following the personality study of Hoch.¹ In addition to the guide, the following, particularly applicable to children, is especially thought of: The child's habits of eating, sleeping, play, and its reactions to parental discipline; its affections toward parents, brothers and sisters, and other little girls and boys, as well as its attitude toward adults, strangers, etc. We hold that the inquiry in infantile mentality is but the stepping stone leading up to the personality study of later child life.

Particular attention is paid to the child's reaction at home in contrast to that at school, as well as its behavior with playmates on the street, compared with strangers and adults in civil authority. It is well known that there is a marked difference in the manner and conduct of children at home and in school. At home the child lives and acts on the stage of his ordinary life, which is a natural setting to him and is easily described by the parents and friends. On it every change and abnormality gains a fine relief. In school the child is placed on a common level with other children. While the experimental ground of the school may be strange, it is one where intellectual grasp and emotional control are easily compared with those of the average normal child. In the absence of any very stirring trends of events, the school record is apt to lose the fundamental connections and contain stereotyped accounts of cut and dried observations, instead of giving us a live, continued account of an individual type of maladaptations of a psychopathic child who struggles ineffectually against the normal school work.

The very first uniform experimental phase of a child's reaction

¹ August Hoch and George S. Amsden: A Guide to the Descriptive Study of the Personality, *State Hospital Bulletin*, November, 1913.

to the entrance of a school is carefully inquired into. His willingness to surrender his isolated individuality to that of the group in school play and work, and his adaptations to new surroundings and a uniform homogeneous discipline are carefully noted. Ordinarily the child's adaptability to the school is much easier than the same change would be for the adult, for innate reasons.

An ordinary common sense description of how the child acted on the foregoing occasion brings out important points which a medically trained observer will not care to miss. It brings out the general condition of the child with regard to health, strength, general feeling, the ability to grasp the situation and of adequate self-direction and adaptability, or it will bring out various morbid conditions—weakness, distraction (as shown in dress and personal appearance, or in the inability of appropriate adaptation to the situation), the dominating emotional tone, and general mental attitude. It also furnishes data concerning the orientation, and frequently a spontaneous account of the child's difficulties. But for a medical account, a more methodical inquiry into the points on which we can base a definite diagnosis, is quite essential.

For this more direct examination, the mode of approach is absolutely decisive of the result. The reserve of the child is usually very great, or if not reserve, at least there is an unwillingness to show a clear picture of peculiar experiences. It has therefore been found necessary to gain the child's confidence by treating him or her "as a sensible boy or girl," to begin wherever the child does not speak freely, with questions about whether he has got on well with everybody at home and in the school, to pass to the least irritating topics, such as will most likely elicit a pleasant answer and create a congenial starting point. In perfect privacy, the statements can usually be obtained quite fully, often with a feeling of relief in the child, and a distinct gain in the relation between physician and child. Any chances of self-humiliation must be eased with verbal suggestions and any appearance of obnoxious ridicule, dictation or correction, and unnecessary argument must be avoided; one should not have special insistence in professional dealings with children. It certainly requires a great deal of knowledge and sympathy with children to choose the right moments, and it is to such an extent a matter of inborn tact that it is doubtful whether any written rules can do more than bring out that which one already possesses.

The feelings of the child, the general condition, and the special idiosyncrasies are kept in mind before all. We find that the utmost care is necessary to make the child feel that all is done to make a comfortable and wholesome relation to the physicians, teachers and parents, the keynote of all our efforts. Sometimes it is necessary to urge analysis of the situation a little more than is pleasant to the child, and sometimes it is found that all one has been able to accomplish at the first examination is to prepare the way for the next interview, and to dispel unpleasant impressions by counter suggestions. At times, a physician meets with idiosyncrasy in a child, and the cause is greatly served if he recognizes his limitations in being able to meet that attitude, and if he knows how to inform some one else of just what is wanted to complete the observation, so that the child need not be bored by the same questions over and over again or submit to a complete examination by another. Above all, we try to connect up all the child's abnormal reactions to their real genetic causes.

The leading question may be: How does the child behave in reaction to school or home work or discipline? In what way does it seem unusual?

One notes first the general attitude of the child in school work, the trend of mood, and activity and interest in his work. The degree of progress and the general retentiveness of memory as to school studies, discipline, and play is the natural inquiry.

The systematic investigations of the child's general mental trend, the existence of special moods not covered in the personality study, easily lead us to a constructive plan of training treatment. Special inquiry is made into the condition of the sensorium (the child's appreciation of sensory stimuli and the simple responsiveness to impressions constituting a psychosensory examination), including tests for orientation of home and school life, memory of recent and remote events, retention, fund of general information, counting, calculation, reading, enunciation and writing. Finally, there follows a concise verbatim account of the child's own story of his difficulties, and how he thinks they may be set right, with notes in parentheses of the changes in moods, manner, appearance, and conduct while such accounts are being detailed. All is followed by a physical and mental summary of the entire case.

The foregoing mental examination gives some idea of the manner we have outlined for our scheme of approach in elucidating the

psychopathic state. Many of the principles have been taken over bodily from other approved methods of study of the psychoneuroses, especially from Meyer's well known scheme which is now used in a modified form in many mental clinics.

Not the least valuable part of the further record of the child is the embodiment of the social report on the environmental, social and economic conditions of the child's home. Such often modifies our view of the psychopathy to a great extent, and especially do we find it invaluable in outlining a recommendation of constructive correctional and training treatment for the child in the school.

We may now summarize our tentative scheme for examination of psychopathic children as follows:

Name, Age, Father's and Mother's Name, Address.

The Child's Main Difficulties.

School Record in Normal Classes.

Intellectual Tests: *Simon-Binet and its modifications.*

Family History. *Data obtained from parents by physician and social worker.*

Personal History. *Chronological physical development of the patient from birth, made up of facts obtained by physician, social worker, and from parents.*

Physical and Neurological Examination.

Mental Examination. *Inquiries and observations regarding general appearance, manner, conduct, etc. Mental development of infancy and childhood. Personality study. Patient's own story in regard to his difficulties and how he thinks they may best be set right. Social report on environmental, social, and economic conditions.*

Other Facts Concerning the Child.

Summary of the Case.

Treatment and Correctional Methods Recommended.

Observation in Ungraded Class.

Results of Reëxamination.

It can readily be surmised from the foregoing method of examination, that the main or central clinic is not concerned with any mere enumeration of the types, or simply sorting out different manifestations of psychopathies in children, but is making a genuine attempt to study intensively the few rather typical abnormal reactions in psychopathic children. From the comments upon the three cases to follow, it will be seen that while the children thus studied are unique in many respects, the great problem pressing for solution is to know just what to do to extricate them from their difficulties. It is manifest that the clinic physicians must be more specific and

detailed in their recommendations in training treatments than heretofore; it is equally obvious that a group of special tryout schools in the ungraded classes, properly officered and equipped, must be available to put in operation the specific prescriptions worked out. This middle ground is now being approached in a satisfactory way. Many practical ways of filling this gap are now being used, and no doubt they will be interesting studies for teachers and physicians dealing with psychopathic children.

As an appendix to this preliminary announcement of the establishment of this clinic in the ungraded class division of the Board of Education, I wish to give in brief three interesting case histories as a sample of the cases that have appeared before us for examination. The following case is given because it is generally held that most of the main incentives to physical and intellectual development receive their impetus from the emotional faculties of mind and that in the absence of, or marked diminution of the emotional factors, the individual child will remain an idiot or a feeble minded child without incentive or trends of interest by which we may influence his development. When we remember how very important the emotional faculties of the child are for taking up any educational method and especially in those children considered as mentally defective, we see how essential it is for us carefully to analyze the emotional life. It is particularly important to study its alteration for a basic understanding of the normal and abnormal development of behavior and conduct in children. In brief, the affective side of the mind is the uppermost point of attack in the new understanding and interpretation of nervous disorders, of many of the insanities of the more acute and curable sort, as well as of the various states of the mentally defective group.

To those of us who have already given considerable attention to the inner promptings to action of the emotional life, some of the issues involved seem already on the way to solution, but the correctional measures needed to overcome these affective faults require the widest coöperation of the parent, teacher, and physician. With this latter view in mind I shall report here upon a personality study in a boy whose greatest fault lies in the apparent absence of any marked emotional reactions, at least so far as the ordinary ones of everyday life are concerned.

CASE 1.—This boy, aged twelve years, was referred to the clinic for mental examination as he was thought to be an incipient "shut-in" type

who might possibly develop dementia precox in later life. His school record showed that up to 1911 he was irregular in attendance, due to various slight illnesses incidental to childhood. His teacher reported he had passive attention, a sort of indifference which affected all his work. His memory was not good and his oral work was poor. His handicraft in the school shop was poor and insufficient, although he showed fair ability in reading and writing. He has shown some special taste and aptitude for music, although no marked proficiency in the art. His teachers designated his disposition in the characteristic phrase of "being colorless." It is confirmed by his mother and teacher that he seemed in a dazed state, was afraid to play with other boys, and was slow and indifferent to any motor work or play. The Binet scale shows him of normal rank. His father, of German descent, is an opener and packer at appraisers' stores. He is considered a little irritable and quick tempered. The mother is of Irish descent, and in robust health. The boy was her first child. She has another son, eight years old, who is in marked contrast to our patient in being bright, quick, and alert in all things, and in the mother's words, is a "typical boy."

Our patient was of normal birth. At home he never has been noisy or troublesome, has a good disposition and helps some when he is directed. He never offers his services nor takes any initiative. The family lives in a good physical and mental environment. The boy has no physical infirmity so far as can be judged.

The mental examination brings out the following facts: The boy was bright from infancy beyond the ordinary child (mother's statement); has always been interested in music and could hum tunes before he could talk. He picked up the playing of the harmonica and a toy piano independent of instruction. He has taken music lessons during the past two years until he was stopped by the school principal, who thought the boy was not getting out enough in the fresh air, which he thought accounted for his indifference. Although he has gone out more of late, he is still somewhat anemic in appearance and is still listless and unusually quiet for a boy of his age. He has never liked boy friends and prefers the society of older people. He never has had any peculiarity of eating, sleeping, playing, or any of the automatic processes of developmental life. In school he has never cared for arithmetic, and is three years in arrears in this subject now. At present he does little home work, but is always self-contained and largely indifferent to any prompting in play or work, or in teamwork of baseball, hockey, etc. He is always slow in forming his judgments; never shows any constructive imagination nor any liveliness of fancy in any direction. He has never been able to decide what occupation he wants to engage in in after life, although he has been frequently asked about it and different occupations have been suggested to him. He is of no practical turn of mind nor can he use tools well. He quickly surrenders all such chances to make things to his younger brother, who takes the lead in any plan requiring constructive knowledge or activity. Neither can he recall any kind of games he has cared to play, nor any he would like to try. While fairly talkative at home he is very silent

in the street and in strange places. He is not self-depreciatory, but depends much upon others for proving his opinions, especially upon his mother, who is a rather forceful character. He is not especially attached to his mother, however, as she may be away for long periods without causing him anxiety, alarm, or depression. He is neither conceited, egotistical, nor proud nor vain. While he is not fond of dress, he always keeps himself clean and presentable. He is inclined to be conscientious in doing things when once they are turned over to him. He selects by preference the associations of older people of either sex and has nothing in common, interest or curiosity, with boys or girls of his own age. He shows at times a rather keen desire to hold off the friendly advances of other boys, singly or in group contact. On the whole, he prefers to be alone, and at such times he does little but look about or walk idly about the house, with correct deportment, whether watched or not. He is rather shy and diffident with strangers. He is naturally sympathetic and kind hearted toward animals and playmates when urged to associate with them. His mother calls him "the tender minded boy," and praises his orderly and systematic habits of keeping his room and personal belongings in order. He has never been assertive toward other boys and was never in a boy fight in his life. If struck, he never retaliates, but walks away from his assailant. While the boys frequently engage in a free-for-all fight when school is dismissed, he never joins in nor rushes to see a fight where others are engaged, but says: "Such things don't interest me. I just take my books and walk home. No, I am not afraid, but I don't care about what other boys do." His rather studied aloofness from ordinary human boyish interests has won for him the epithets of "Judge" and "Professor." He has never been known to react to any news favorably or with enthusiasm, nor is he depressed. He is very constantly unperturbed and of one mood always. He is never irritable nor irritated. He has a few friends, but makes little effort to attach them closely to him. At the examination he remained in an unconstrained attitude, was little interested, responded easily and readily to all questions, and made all statements in a normal manner. His features were dull and masklike. He seemed a bit dazed, in a sort of brown study. At other times he had a slightly perplexed attitude as to what the inquiry might be about, but evinced no special curiosity to inquiries put to his mother. If urged rather warmly to reply to pointed questions whether he were ill or what was the matter with him, he would reply in a slightly animated manner for a short time (three or four minutes), but at the first opportunity would quickly sink back into his former uninterested, self-contained manner. His deportment during the examination bore no evidence of any peculiarity of manner, speech, or expression, except of complete indifference and lack of interest. At one time, in efforts to arouse him, his mother invited gay companions, boys and girls, to the house; the former left him severely alone with derisive remarks regarding his personality, and the latter called him a stick. He was not disturbed by any of these remarks.

The boy resembles his mother closely in physical makeup and in temperament.

An uncle took him in charge for a yacht sail for a day or so to "stir him up." While his manner and deportment were quite correct and inofficious, he never altered this attitude during the entire trip. At the end of the trial the uncle turned him over to his mother in disgust.

A few years ago, he often inquired in a mild manner about the origin and meaning of life. His mother explained some things he inquired about in a simple way, but after listening for a time he said he couldn't comprehend or understand it, it was all so different from what he felt. He has never shown any sexual curiosity nor to have taken any means to find out about it. Physically he is apparently a normal boy, a little small in stature for his age.

After many inquiries the boy says, in answer to definite questions: "I have no difficulty in school; I stand about average in the grades. I like to go to school as well as anything. I just as soon go if I have to. I do and like whatever is given me to do. I just follow what others say for me to do."

In brief, we have a boy of twelve years, slightly retarded in mental growth in the intellectual field, with practically no emotional reaction whatever, who has no push or tension, curiosity or interest—the mainsprings to proper and normal development. A point of equal interest to that already determined, an absence of emotional life, may be called attention to by the query: What will be the after development of such a boy? If there is a process of unfolding of the emotions, how may they be brought out? Apparently the personality study does not reveal this boy to be a shut-in type, but rather as one in whom the emotions were shut out or off in very earliest infancy. What may be done for such characters in the home and school to intensify or open up the emotions? Undoubtedly the appeal must be on the ground of the emotivity of the boy. It may be just possible that the musical faculty should be the beginning point. One often sees the musical instinct the chief or main appeal in the frankly mentally defective child, and all know how much is made of this form of developmental training in institutional schools for the feeble minded; even intellectual games and gymnastic dances may be profitably employed and utilized.

It is commonly believed by many that the mentally defective child is uniformly deficient in all his faculties. It is often held that when some one or two of the defective child's mental traits are not completely submerged in the general deficit, that such less marked defects do not warrant us in greatly changing the general routine plan of

education. It requires no lengthy argument for us to see that if a boy, twelve or fourteen years of age, cannot do the intellectual work of a boy of eight, but may be unusually clever in the use of his hands in shop or office, that a useful education means to such a boy either the best development of these motor faculties or he must do without an education. It may be we have too long insisted upon pure erudition as an educational standard. In spite of all that has been said, we do not fully realize that the real work to be done in the world requires motor coördination training as the part of any complete system of public education. The vocational and industrial schools throughout the country indicate the tendency of the times to meet the situation just alluded to. I wish to drive home this educational principle by citing an excellent, yet pitiable example of the foregoing truth, that to some children an offer of book education means no education; the boy's case is, in fact, a detailed study at our clinic of a lad of fourteen years who has the visualized memory of a child of but three or four years.

CASE 2.—The study is based upon a boy, aged fourteen years, who is totally unable to make any progress in the ordinary book work of his school. He cannot spell the simplest words such as "girl" or "desk," and does not know the three times table in multiplication. His sense training in the school is but fair. He was especially quick to respond at command in imitation of all physical training. His handwriting was shaky and much of his industrial training was accompanied by trembling movements. He speaks well. His reading and arithmetic are equal to a boy's of seven years. The amount of general information was fair. His power of attention and memory were good. In the ungraded class work he did good manual labor.

The family history was negative, and threw no light on the causes of his mental defect. An inquiry into the personal history is negative aside from an attack of scarlet fever at three years of age. A year after the fever, which was moderately severe, he had two or three peculiar faint turns which pointed to a certain type of epileptic fits, but nothing similar to them has occurred since. He is a robust, fine looking, bright boy, with no apparent physical or nervous disorder.

Careful test shows his intellectual development to be that of a boy of seven years. He stands in great terror of his father and the teachers, who think he is lazy and unwilling to learn. At home, he reads his lessons over and over again before the father comes home at night so the father will not hear his mistakes and scold him, but he continues to make mistakes in spite of all efforts. The main examination shows that he has a good disposition. He went through all the manual and motor tests easily and well. It was found that ever since the attack of scarlet

fever at three years, he has been sluggish and indifferent to any kind of work requiring visual memory. He has always been poorest in spelling. His motor cleverness and ability to handle and understand mechanical work is well shown in an incident of last summer, while in the country on a vacation. He wanted to take two broken bicycles apart and make one good one out of the remnants; after days of labor and much constructive adaptation he succeeded in accomplishing the task, in spite of receiving advice that it could not be done. It is found that he has gradually become a timid type of boy who never plays freely or naturally with other children and always prefers to be alone. He is interested in electrical work and attends to the electric bells in his home, and in fact does all the repair jobs about the house. He is employed by the teachers in his school at all sorts of work. His very lack of getting on at school seems to have engendered a shyness, timidity, and feeling of inadequacy and doubt, which in turn are slowly shutting him out of daily friendly contact with the outside world. He is becoming morose and solitary in habits. What the boy himself has to say is as follows:

"I don't know why I can't get on at school; I can't spell nor write nor do arithmetic. I can do any sort of hand work; I seem to understand that by nature, but I can't carry anything in my mind. I mean I can't see a thing in the shop window and go home and make any part of the toy or machine by having just seen it in the shop. I want to be an electrician, but realize I must know more about books if I am to do any good work in life. If I could get an education through my hands it would be easy."

We see here a boy of fourteen years, who is unable to make any progress in school work beyond the fifth year, owing to the fact that he has a rather poor auditory memory and practically no visual memory. On the other hand, he is able to do any sort of manual labor, even that of difficult technic, in advance of a boy of his age. He is a bright, intelligent, and neat appearing boy. Intellectually he is not feeble minded, as he has a fairly well elaborated mind in many, if not all, of the essentials of rational use of his faculties.

Undoubtedly the scarlet fever at three years had something to do with the signal cutting out of the visual memory. Just what happened at that period we cannot say at this time. The plain duty before us is to recognize that modern civilization places heavier visual memory demands upon us as life grows more complex. In the great contests of mental workers the best prizes go to the visualists. The audists are more or less doomed or set apart for the hand-workers of life. Even in the arts we find the audist taking a musical career; the musical arts are said to be the least intellectual of them all. Frankly and in brief, what are we to do for the

poor visual memorists as shown in this boy, for the problem passes beyond the welfare of this individual boy to that of a large group? First, we must know more definitely what the audist and visualist types mean as regards mental development and useful work in the world. We must know what specific appeals may be made to help forward the weakened avenues of the sense impulses in development. Until these studies are made up, on which some of our group are now at work, we have recommended that this boy be given special motor and trade training with which ordinary school studies may be concretely added as a part of such motor work. Workign under this plan, he is now more satisfied and is advancing in the acquirement of mental knowledge.

I shall now call attention to an entirely different type of boy. He is neither emotionally defective nor intellectually backward or deficient. He is the antisocial type, that type which I am told is often designated by some as afflicted with original sin, in large though as yet embryonic measure. He is a nonconformist to society at large, at home, and in the school, an intensive individualist and egotist in miniature. Let us see what the specific analysis shows.

CASE 3.—H. H. is a boy, aged eight years physically, but many more than this in worldly wisdom. In the school he was classed as a nervous and inattentive pupil. He liked drawing and was also good in arithmetic, writing, and spelling. The teacher thought that on the whole this boy was bright and quick in his work; in other things he was very dull and slow, and these were the things that he did not care to do. The teacher reports that the boy is very nervous, and the boy thinks the teacher is.

In the family history we find that the mother died of tuberculosis when the boy was two and one-half years old, and that all three children suffered from marasmus. The father is temperate, and the grandmother, with whom the boy now lives, thinks that the father's disposition is rather bad and stubborn, and she is therefore taking charge of the child.

The boy was normal in development after one year of age, when he recovered from his marasmus. He learned easily, always kept up with his classes, and went as far as 2A. After acquiring this grade, which was about a year ago, he became inattentive. He has very good sense in regard to ordinary duties, uses tools well, chops wood, and is very active in running errands. He is naturally talkative; likes animals; is not especially obedient at home and resents being scolded and corrected. He seems naturally to pick out bad boys as being more interesting, and sets them up as his ideal. His grandmother thinks he is sly, and that he confides in his boy associates and not in her. He is not particularly truthful and is likely to find some way to secure his ends and do what he likes.

On this superficial background of bad deportment and conduct, we will now see what the boy's own story is:

"I don't like school as it is run; it is not as interesting as many other things. There is not enough to do. There are lots of other boys, who do not like school any better than I do. I just go there, and behave as I see fit. When they correct me, I tell them to mind their own business, and then if they punish me, I play truant. I like the boys very much and they like me. I do not like my home; it is so dull; they keep saying 'don't' to me all the time. My special friend is Tony, the boy across the street; he is the head of the Ninetieth Street gang; we have a den and we get things from the 'ginny' at the corner. Some boy goes in and buys things in the shop and we take things off the stand outside. We only take things to eat; we get bananas, candy, and onions. We take bread and cakes from the little boys and girls who are sent to get things at the baker's. We take all these things to the den and there have a good time. (With righteous indignation.) No, we never steal money; of course we take pennies from the small boys who are sent on errands. When the cops chase us, we run out on the rafts and if necessary we go in the river. We also go on the roofs; we know lots of places to hide away from the cops. I am second to the leader in the gang; they call me Henny Penny. We have had some good fights with other gangs, the Eighty-eighth Street gang in particular. We get bruised up considerably, but we come out best on the whole. The boys who do not get any money at home and not allowed to do errands to earn it, always steal it from their parents—how else are we to have any fun? Granny doesn't like me to be with these boys and she thinks they are bad company for me. I have belonged to the gang about six months now. I hope to be leader some day."

We see here a boy who is difficult to manage, both at school and at home, who has easily passed beyond the ordinary conventional ways of discipline for boys of his age. He has a very keen desire to take up some manual occupation at the earliest possible date in order to make money and engage in sports and other amusements. He particularly wants to do work, like other boy apprentices older than himself. It was recommended that he be sent to an institutional school where he could have a two years' vocational training and discipline, and where life would be freer in the sense of physical activities, sports, games, etc.; that he be placed under the mass government rule, such as holds in the George Junior Republic, and that a masculine system of discipline be outlined for him. His grandmother suggested that he be sent to his father, who is superintendent of a farm in the country, as the boy looks up to his father and is very fond of him. The father is very quick tempered and has very little patience with boyish pranks; having somewhat the

same temper and probably having passed through the same kind of boyhood, it would probably be difficult for him to be fair to his son in the matter of correctional treatment.

While we recognize that the juvenile delinquent is a proper study for the courts established for this purpose, we all know, as in this case, that the beginnings are worthy of study in the home and school, and many a habit of waywardness and bad trends of conduct can be best handled early. We must modify the school for the difficult boy and establish boy clubs as interesting as the gangs, and mould the abnormal trends of character and deportment to a proper up-building of future usefulness for the individual and society.

Finally, I wish to express on behalf of my colleagues and myself our best thanks to the Board of Education for its wise and progressive advancement of our work in the clinic, and to Miss Farrell in particular for staunch support of the new work and hearty coöperation in making it thorough, efficient, and practical.

The pictures show that the needs of the psychopathic children for many materials, differing in quality and quantity, are fully met in the ungraded class school equipment. While it is true that the purely educational value in any material is lost in a great measure after the child has learned to manipulate it, technic and skill, the essential commercial value of the artisan, may be developed by the use of such materials after the educational value has been exhausted.

In addition to a variety of material for expression, the children need to have their experiences associated and correlated to develop a well stored memory, and it is one of the basic principles in these special schools to arrange the work to that end. The appeal in the school activities is to the core of interests which touches the child's activities in the most intimate manner. For instance, at one season of the year the pupils are all Indians, at another, Eskimos; again, the boys are farmers, busy planting and cultivating the soil, while the girls are busied about housewifely duties, making butter and cheese, sewing, baking, cleaning, and making beds. Some of these school training duties are shown in the pictures, and other photographs illustrating further the work carried on in these ungraded classes are omitted on account of lack of illustration space.

It will be seen that everything is planned in such a manner that the pupil's core of interests shall be so sharpened and enhanced that he may be the more easily led from the concrete education to that of the abstract, as in the ordinary school curriculum, which

is without an appeal to these psychopathic children. For instance, abstract and formal letter writing, as in the ordinary school, is replaced by writing lists of goods and store orders; a real store and real money are used. Composition work is developed by the pupil writing a full description of the article wanted. The same idea persists in extending the child's knowledge of reading.

OBJECTIVE PSYCHOLOGY OR PSYCHOBIOLOGY WITH SUBORDINATION OF THE MEDICALLY USELESS CONTRAST OF MENTAL AND PHYSICAL

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A few years ago the American Psychological Association discussed the question of a course in psychology for medical students. Since then the problem has been taken up in the Johns Hopkins Medical Department, last year in a course which I gave with the collaboration of Prof. J. B. Watson and Prof. Knight Dunlap, and this year in a course which I gave alone. The time allotted was two afternoon hours a week in the spring trimester of the second year, altogether twenty hours.

My first step was to find out the standpoint of my students, many of whom had had courses in psychology at college. I asked them to state what relation psychology had in their minds to physiology and pathology. I was at once confronted with a lack of definiteness and agreement which is the inevitable consequence of the fact that there is but little mutual understanding among the teachers of psychology, and little applicability of what is taught either to the plain man's needs in viewing mental life, or to the physician's needs.

I found that most students had the conception that psychology deals with the mind as physiology deals with the body. They contrasted mental functions and physical functions, and had more or less vague notions of the doctrine of psychophysical parallelism which has governed science during the last fifty years or more. Most students, however, assumed an influence of mind on body and of body on mind after the fashion prevailing before the ingenious truce attained by Fechner's parallelism; and in this they evidently were prompted by plain sense rather than by any dogmatic theory. In the discussion there certainly was no evidence of any solid metaphysics worthy of that name and no realization of the often discussed and specially dreaded problem of interactionism.

I am not surprised at this state of affairs, for when I look

¹ May 5, 1915.

around among my colleagues I find few well-defined attitudes. There are those who see no sense in studying mind beyond what is done in the physiology of the brain. There are, however, others who recognize the facts of suggestion, the rôle played by the emotions not only in hysteria, but even in Graves' disease; but just how the thing works, many believe to be beyond human ken. One of my colleagues expressed his views in last year's address before the Medico-Psychological Association, in which he emphasized the subjective character of the mental facts, suggesting in fact, if not in word, that mind can be of use to the physician in the form of symptoms, but not as causes and objective facts like the other objective facts of medical observation.

The difficulty lies in the hesitancy to accept a frankly biologic view of the reactions and behavior of man. As soon as mental attitudes and mental activities are accepted as definite functions of a living organism, mentation and behavior is treated as a real chapter of the natural history of man and animal, and psychology ceases to be a puzzle supposedly resisting the objective methods of science. "Mental attitudes" and "mental activities" certainly are doings and activities of definite individuals; we see them and prove them to be present or absent or changed, as attitudes and actions of others as truly as we know them in ourselves. We may know some of our own mental states in more detail; but that which counts is attitude, activity, and behavior, observable in any one, and sometimes rendered more accessible by inducing the subject to amplify his activities verbally or in other ways until we know the facts, that is, until they have been made objectively evident.

I am specially anxious to make plain what is meant by the fundamental assertion that what is of importance to us is as observable and as objective as any other fact of natural history. What is of importance to us is the activity and behavior of the total organism or individual as opposed to the activity of single detachable organs. It is more than cerebration; we must take our domain broadly as behavior and passive and constructive adaptation of the entire individual. It differs from the ordinary physiology because it represents an integration of biological activity on a specific level through its having the characteristic of more or less consciousness and because of its hanging together by associative function. From the point of view of science, behavior and mental activity, even in its implicit or more subjective forms, is not more subjective than the activity

of the stomach or the heart or blood serum or cerebrospinal fluid or the knee jerk. Each individual has his own mental activity, but to say that we cannot see it and make it accessible and understand it in others is a philosopher's scare like the statement that we can never know whether the world exists, because we know only mental states or processes. Common sense has never worried about the reality of the world. I hope we shall soon be agreed on the fact that we need not worry about the psychobiological reality and the objectivity of those actions and internal workings of living beings which we call mentation and behavior. I should quit being a physician and a teacher if I felt compelled to doubt the possibility of my studying and knowing your minds and those of my patients well enough to draw practical conclusions from such knowledge. If solipsistic philosophy, *i.e.*, the assumption that one can know only one's own mind, were true one might as well retire into absolute solitude. By making of mind something like the religious-philosophic concept of the soul, something opposed to the body instead of a function of the individual as a whole, traditional philosophy and psychology have rendered us a poor service.

The first step in a course of psychology for medical students is to restore in them the courage of common sense. It is not necessary to start the course with a discussion of the unconscious and the subconscious, and with hypnotism and psychanalysis and other specialized and more or less unfamiliar domains. On the contrary, I urge the student to trace the plain life history of a person and to record it on what I call the life chart; the result is a record of a smooth or broken life curve of each one of the main organs and functions, and in addition, a record of the main events of the life of the whole bundle of organs, that is, "the individual as a whole" and of the facts which determined and constituted his behavior. This realm of objective and determinable facts of the individual as a person constitutes what we as physicians need to know as psychology. The science dealing with these facts I call psychobiology, in order not to step on the toes of the introspectionist who might want to reserve the term "psychology" for the traditional type of subjective psychology. Its facts are behavior in the widest sense of reactive and constructive adaptation of the completely integrated organism. We ask: What are the individual's assets; the reactive and associative resources in the form of effective and expressive activity and its abortive economizing forms, conations, affections,

cognition, discrimination, and reconstructive and constructive imagination? Under what conditions are they apt to go wrong and under what conditions can they be modified again for the better? You can readily see that we are dealing with absolutely objective and positive facts, peculiar only in the way in which they hang together by association in the wealth of equivalents and combinations, and in the varying extent and depth to which they implicate the parts of the integrated organism. So much for the student's general orientation with its restoration of the common-sense attitude.

As an instance of the study of assets, we take up the Binet-Simon and other genetic standards and survey the successive epochs of human life and their psychobiologic problems: Infancy, then the period of acquisition of signs and language, the early childhood passing into what Joseph Lee calls the "Big Injun" stage and the school childhood, the preadolescent and adolescent period, the period of emancipation, the period of adult aggressive life, the period of maturity, the matron's period, and the period of senescence—each with its own psychobiological features and problems.

Within this broad and clearly biologic frame, the student becomes ready to see a proper setting for the more detailed and specific chapters, among which I take up first the cognitive-representative data: Reactions to things present (sensation and perception), reactions to things absent (memories and images), reactions with ideas and words and concepts; all activities depending more or less directly on the collaboration of brain and sense mechanism and serving the function of orientation. Then we take up the affective processes which determine the general trend of association and involve, besides the brain, mainly the sympathetic system and internal secretions, as Cannon has so well shown lately; and then the overt actions, specified as effective and expressive, and the laws of habit formation, memory and association, and conation or will and its relation to instinct. We then consider the various degrees of consciousness and attention; and we introduce the data of hypnotism and the subconscious and dispositional determining influences shown in the association experiment.

On this ground, we take up the genetic account of several leading functions or instincts as given in Pyle's "Outlines of Educational Psychology" and incidentally the psychobiology of sex life.

A review of the nonmental components of the mental integrations, the foundation of fatigue, and waking and sleep states, of the share

of the circulation, of internal secretion, and of brain organization, rounds off the course and leaves us with a well-checked outline of examination of the mental resources and reactive tendencies of any patient, to be used and developed in the third and fourth year courses in psychopathology and psychiatry.

Psychobiology as thus conceived forms clearly and simply the missing chapter of ordinary physiology and pathology, the chapter dealing with functions of the total person and not merely of detachable parts. It is a topic representing a special level of biological integration, a new level of simple units having in common the fact of blending in more or less consciousness, integrating our organism into simple or complex adaptive and constructive reactions of overt and implicit behavior. I contrast (1) mentally or more or less consciously connected reactions, and (2) nonmental reactions of individual detachable organs which may as well be studied in the test tube and isolated and then certainly give us no evidence of consciousness. With this frank contrast we avoid panpsychism and solipsism and absolute subjectivism and all the other bugbears confusing the medical and lay mind and the would-be scientific psychologists. We keep on the ground of common sense and teach the student to study individuals or persons, in addition to making a study of the special organs, and in this study of individuals we deal definitely with objective facts which we must learn to specify and demonstrate, to account for genetically, to study for their effects and for means of modifying them for better or worse, just as we study the heart functions and not only the murmurs and the lesions, and the kidney function and the carbohydrate regulation or any other objective fact of biology and physiology and pathology. Reduction of the essential facts to terms of an experiment of nature, and study of the modifiability of the experiment is the fundamental law and aim of medical science, and this holds clearly enough for the psychobiological assets as well as for any other type of reaction.

In harmony with this conception, the concepts of mental and physical must undergo a readjustment, as the concepts of sunrise and sunset had to undergo a reinterpretation. Science deals with a world of things, facts, and relations appearing in several distinct levels or types of integration. Physics deals with one set of aspects of matter and ether; chemistry with another, namely, the laws of behavior of atoms and their affinities and combinations; physiology with a biological level, that is, those objects and their parts which

grow by reproduction and metabolism; and as psychobiology we treat the functions of total organisms which blend in more or less consciousness in a manner constituting a special level of integration which has been especially and most characteristically enriched by the interindividual and social development of language. This level of integration we treat as psychobiology when considered as actual functioning and behavior of living organisms. All that which constitutes psychobiology to the physician is, therefore, also physical as well as mental. We can further recognize an ultrabiological level of facts when we consider the products of such functioning, as logic and mathematics or theory of relations, or as history and record of the human race, including also the more than biologic realms of fact, philosophy, and religion. In this way we obtain an orderly perspective of the various sciences, but eliminate the contrast between physical and mental.

It is desirable, I think, to make the student feel that he does not have to draw too sharp a line between mentally integrated and nonmentally integrated activities. Many reflexes or instincts or reactions can appear on the physiologic level or on the psychobiologic level. The difference lies in the mode of hanging together, the setting and the extent and kind of possible interrelations.

On the physiologic level the reactions last as long as the stimulus, are commensurate with the stimulus, and occur as it were according to the laws and requirements of contiguity.

The entering into the psychobiologic level brings in a more extensive scope of potential links and interrelations, with the laws of consciousness and of associative relations.

The reaction becomes part of what I describe to the student as a burst or geyser of daily activity, with laws of blending and laws of falling into trends laid down according to the principles which experience with this special level of biologic regulations must furnish us. The student must realize that the mechanisms of the psychobiological level are not limited to the type of consciousness which we know in waking life and which most psychologists cultivate exclusively. Watson's work shows that there are many problems which can be studied accurately with practical disregard of the "contents of consciousness," as we are apt to call the "implicit" links of action. Many conditions will, however, become intelligible only if we take into consideration the special characteristics of special types of consciousness, such as the dream states, half-dream

states, states of distraction, hypnosis, and special affective states, the study of which can do full justice to the fact that some of these special states will prove open to explanation and reproduction or at least facilitation by the introduction of detachable physiological lifts, chemicals, narcotics or internal secretions, of which we know that they can produce modifications of the hanging together of psychobiological trends.

To sum up: From time immemorial the physician has been urged to treat not only the diseased organs or the condition, but also the patient. And of late years we have learned to realize that indeed some disorders can be explained, and treated, as abnormal and unhealthy ways of the person rather than as disorders of any one special organ; rather as disorders of the combination and its behavior. Every medical teacher gives some advice on this topic of doing justice to the personality; oftenest, and probably too often, he feels that the talent for dealing with personality must be inborn and cannot be hammered in by any training.

Of late years the difficulties in the total unified adjustment and behavior of our patients have been more and more reduced to intelligible processes: Defects of development, intellectual, affective, or conative, improper use of the assets, etc. Instead of mere vague ideas of something requiring special handling, we have to-day a growing body of facts in the way of habit disorders, harmful substitutions and the like which must be heeded in helping the patient to reach his best ground. How can the student be helped to command these facts most quickly? We teach him physics and chemistry and biology and physiology. Who teaches him the elements of those reactions which we call behavior and mentation? He enters on this field with confused and confusing notions; how is he to straighten them out?

The first condition for productive work in this field of psychobiology as in any other, certainly, is controlled procedure and methods of description and record and experimentation which come up to definite standards. It is clear that psychobiology and psychopathology have principles to offer which go beyond the dilettante realm and form a fairly clean-cut body of methods and helpful procedures: Not only safe neurological methods and safer methods of work with internal secretions as such, but also safer methods of inducing and directing associative and nonassociative processes and associative material serving the best demands of the various types of makeup.

The difference between modern psychology and the older form is that we can no longer be satisfied with mere plausible statements and amplifications of the obvious, but must test and verify objective facts under controlled conditions and controlled modifications.

In my own teaching, I am determined not to put curiosities and the sensational to the forefront. Students whose interest goes toward such sensational things can in time be reached even with this conservative scheme if they have the right stuff in them. On the other hand, stagy psychology can be maintained to advantage by but few teachers and few workers and it fails with the bulk of our clinical material. We must discourage the ever-lurking interest in the occult and semioccult and replace it by solid confidence in reliable methods and by determined interest in matters obviously calling for serious objective study.

This hasty survey might easily gain by further amplification. I trust it may give an idea of the entire practicability of a course of study of objective behavior and mentation useful and essential to every student and physician; likely to give a sane balance and to furnish protection against extreme and one-sided vagaries or equally unnecessary psychophobia, which have so long marred the efforts of physicians in their working with the personality of the patient as well as with the individual organs. Saner views will make us physicians more just and more capable and less likely to drive a lot of sensible but misguided people into obscure mystical cults and ourselves into passing fads and fashions and empty squabbling before a justly distrustful public, and they also will make unnecessary that new profession of "clinical psychologist" and efficiency psychologist for which a medical training will become obligatory if we physicians show the sense and capacity to furnish the needed psychobiology as a necessary and obligatory part of our training.

THE TREATMENT OF CASES OF MENTAL DISORDER IN GENERAL HOSPITALS*

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In the report of the Boston City Hospital for the year ending January 31, 1913, the trustees, speaking of the establishment of the house service for nervous diseases, made the following statement:

"With the passage of time the advantages of this plan become more evident. Perhaps the most marked gain for the hospital is in the opportunity this service gives for the observation of patients with psychopathies, or confusional or hallucinatory states. In this way there is given the opportunity to distinguish the various forms of cases, particularly to separate the cases due to some toxæmia or other temporary causes from the more chronic cases, thus preventing the need of committing many of these patients to institutions for the insane, and thus saving them from the stigma of having been insane, however unreasonable this stigma may seem to physicians, and also avoiding considerable expense for the community for the transfer to other institutions of these transitory cases."

In the many discussions that have been held as to the disposition to be made of the so-called "acute and borderland cases of mental disease," I have at various times contended that such cases could very well be received and temporarily cared for in our general hospitals—a contention which the hospital authorities have always strenuously opposed. It was therefore with considerable gratification as well as surprise that I read the words just quoted, for they showed that the experience of the last four years in the treatment of such cases in the neurological service has demonstrated not only that the admission of such cases is possible, but even advantageous.

The mentally disturbed patient is, of course, not looked upon with favor in a general hospital. He may be noisy, violent or

* Read at a meeting of the Boston Society of Psychiatry and Neurology, December 18, 1913, and at a meeting of the New York Psychiatric Society, January 7, 1914.

dangerous; patients and nurses fear him; he may have to be fed or be filthy in his habits; his language and conduct may be offensive; he may even kick off the bed clothes or wander about in his night shirt. Consequently a matron, who does not want the bed clothes thrown off when the thermometer reaches 104°, or who, like the matron described by Dr. Mary Neff, "wants the patients to sit all in a row," because they "look neater that way," looks at him askance. His departure, whether to the insane hospital or the morgue, is hailed with relief. Nevertheless every hospital of any size must inevitably have to deal with disturbed or violent cases, if it receives accident cases, surgical cases, acute infectious diseases, apoplexies, renal diseases, or, I might almost say, any patient at all. If the hospital has a special ward, like the psychiatric ward at Bellevue, the problem is easier, but with open wards the difficulties are obvious and have often been regarded as insuperable.

It therefore seems desirable, especially in the light of the recent comments of the trustees of the hospital, to review my own personal experience in the last four years in dealing with patients who have manifested some mental disturbance during their stay in the hospital. I will speak only of the cases admitted to my own service during one-half of each year, although it is safe to assume that conditions do not differ materially during Dr. Thomas's service in the other half of the year. It is fitting here to recognize Dr. Thomas's complete coöperation in the work of the service in caring for these patients and the absolute support which Dr. McCollom has given us, in spite of certain anxious misgivings, in our efforts to carry out our own ideas in the face of considerable opposition and interference on the part of others.

A few words of explanation may be desirable in regard to the neurological service. After a struggle of twenty-three years, following the abolition of the service in 1886, it was reëstablished in July, 1909. Twenty beds were allotted to the service—an inadequate number, for the service has contained at times thirty or forty patients. There is no special ward, but patients are distributed in several wards. Excited patients are put in an open ward of eight beds, or in double rooms opening on a corridor leading directly from this ward. The doors are not locked and access is free. About four hundred patients are admitted annually to the wards, chiefly adults. In addition the visiting physicians have charge of the out-patient department, which receives seven or eight hundred new cases

a year. Cases are often referred from the out-patient department to the wards, but the great majority of cases admitted to the hospital come from outside and are never seen in the out-patient department. No special effort has been made to collect mental cases and recommend them for admission; they have come in simply in the course of the ordinary hospital routine. After some months the trustees passed a vote that all cases in the hospital in which the question of commitment was raised should be referred to the neurological department which should provide for such commitment if advisable. Such cases are usually, although not always, transferred to the neurological service.

In the last four years there have been admitted to the service during the months when I was on duty 785 patients. Of these forty-nine were not neurological cases. The remainder may be classified as follows:

Diseases of peripheral nerves.....	62
Diseases of spinal cord.....	78
Diseases of brain.....	279
Neuroses and psychoneuroses.....	157
Mental diseases.....	74
Alcoholism	93
Cases classed under two headings.....	7

This classification is the conventional one, classifying hysteria, epilepsy, psychasthenia, etc., among the neuroses, and including paresis among the mental diseases and cerebral oedema (alcoholic "wet brain") under alcoholism. The following table will show the diagnoses most frequently made.

Apoplexies (hemorrhage, embolism, thrombosis).....	207
Alcoholism	93
Hysteria	52
Neuritis	40
Epilepsy	36
Tabes	35
Chorea	23
Cerebral syphilis.....	21
Dementia precox.....	20
Cerebral tumor.....	18
General paresis.....	14
Spinal tumor.....	11
Spinal syphilis.....	10

Under alcoholism I have included beginning delirium tremens, cases that never developed a true delirium, but came near it, alco-

holic confusion, hallucinosis, paranoid states, pseudoparesis and "wet brains." In addition most of the cases of neuritis were of alcoholic origin and many of them showed the Korsakow syndrome. The seventy-four cases of actual mental disease were of all types: Senile dementia, paresis, dementia precox, maniacal-depressive insanity, infectious psychoses, confusional states, etc.

This classification, however, is not very illuminating. Under the hospital rules mental and alcoholic cases, which form about twenty per cent of my cases, are not supposed to be admitted. We must also remember that many cerebral cases, not classed as mental—apoplexy, tumor, syphilis—may show pronounced mental symptoms, that many cases of neuritis have Korsakow's syndrome, and that hysteria, chorea, epilepsy and psychasthenia can cause considerable disturbance, so that these "mental" cases are only a part, perhaps a minority, of the cases which show mental disturbance. If the cases admitted to Dr. Thomas's service are like those admitted to mine, which seems to be the case, it is not an exaggeration to say that the service receives about one hundred patients each year who show considerable mental disturbance. I may add that I have myself committed sixty-nine patients from the hospital in the last four years, and I think that at present about forty such cases are committed each year.

The crucial point in regard to the admission of mental cases to the wards of a general hospital is, of course, neither the number of cases nor the diagnosis, but the conduct of the individual patient. A general paralytic may be able to go about and attend to business without harm to anything or anybody except the business, or he may be the most dangerous patient in an asylum. That many of our patients have been actually insane the number of commitments shows, but many have been fairly quiet and easily controlled, just like the majority of patients in an insane hospital. I have, however, dealt with nearly every variety of patient in these last four years as far as conduct goes—simple confusion, cases requiring forced feeding, agitated and suicidal melancholias, aggressive paranoiacs and the most violent epileptic mania. Violent mania is, of course, rare, whether in a general hospital or an insane asylum, yet to the minds of many of the laity, and apparently some physicians, "insanity" seems to connote violent mania, if indeed it be not identical with it. In some of the discussions on the treatment of incipient and borderland cases of mental disease, I have often won-

dered just what the cases were, for they were depicted as so much more violent and intractable than the incipient and borderland cases I had met, that it almost seemed as if, in comparison with them, the first Mrs. Rochester—still the type of the insane person—were a Quaker damsel.

I do not mean to imply that, previous to the reestablishment of the neurological service, there were not mental cases in the hospital. On going over the records of the old service for nervous diseases thirty years ago, I have been surprised to note the very considerable number of mental cases admitted, and I can recall many cases each year since that have come under my observation as a consultant. Many alcoholic and some mental cases may still be found in the general services, so that there have been more cases in the hospital during the last four years than my statistics would indicate. Every general hospital actually receives a considerable number of such cases, and, although the hospitals object and profess not to receive them, they will continue to have them in their wards so long as they receive patients at all.

In most hospitals, however, the mentally disturbed patient, like other unacknowledged children, is not very well treated. Even if he be not actually violent he may get out of bed or disarrange the bed clothes, and the one idea is to keep him quiet. The result is restraint, and since drug restraint usually requires the connivance of the physician, mechanical restraint, which can be applied without a prescription, is preferred. This is often irritating and sometimes brutal. With a sheet across the body, each hand tied down to the side of the bed and each foot tied to the bottom, it is a common thing for the patient, if he be restless, to rub several square inches of skin off his wrist and ankles. The exasperating effect of such restraint is obvious, and since he can get relief in no other way, he takes it out in cursing—and small blame to him. In hospitals for the insane a list is kept of all patients put under restraint, noting the kind of restraint and the length of time it is applied. Such a list is regularly submitted to the trustees on their visits, and the trustees usually visit such patients and investigate their condition personally. What general hospital does the same?

I am not disposed to make a fetish out of "no restraint." I have seen patients in insane hospitals where I believed at times restraint was desirable. In general hospitals restraint may be even more necessary, especially in surgical cases, but it is applied much oftener

than is necessary. There is much truth in the statement that violent mania is often an artefact, due to psychical sepsis, and it is a fact that much of the restraint used in general hospitals is due to an inefficient and insufficient nursing force.

It naturally follows that an effort has been made to cut down restraint, in which Dr. Thomas thoroughly coöperated. House officers and nurses were told that mechanical restraint as ordinarily applied was damnable, and some of the former apparently came to believe it. Both house officers and nurses speedily became convinced that, if they employed restraint except as a last resort in urgent cases, they would be very thoroughly damned, and no restraint has been permitted except on the express orders of the house physician. In the enforcement of such rules and in the prevention of interference by matrons and executive assistants, we have been much helped by Dr. McCollom, who has always been ready to supply special nurses when necessary. The result has been that in the neurological service little restraint has been used, usually in the form of a sheet fastened across the bed, or, very rarely, of a camisole. The brutal "spatch-cock" method of tying, already described, has proved needless. Restless patients have often done well when side pieces were put on the beds—an innovation in the hospital which we owe to Dr. McCollom, and which would undoubtedly shock a matron who thinks things "look neater" if everything is uniform. The result has sometimes been shown in the remark of a house officer, "It's interesting to see how that patient quieted down after you took off the restraint he had on in the other service."

In endeavoring to do away with mechanical restraint, I do not think I have fallen into the excessive use of drug restraint. I have used the milder sedatives, bromide or veronal, in moderate doses in a good many cases, especially in alcoholic cases, but I have very rarely prescribed more powerful drugs, hyoscine, morphine or even chloral. An occasional wet pack, forced feeding, absolute avoidance of alcohol in the alcoholic cases, a few moderate doses of bromide and more or less persuasion have usually sufficed.

The question naturally arises, "What has been the result of all this? How can you get on in a general hospital and open wards with these excited, noisy patients if you do not restrain them?" In the first place most of these patients are not excited and noisy unless they are restrained. If the physician takes alarm at the first symptoms of aberration, restlessness or disarrangement of the

bed clothes and applies restraint, the patient becomes irritated in consequence and is ready to make trouble. Even when the patient is excited and noisy we have managed to get on with very little restraint, and apparently we have done better without it. In four years there has been no suicide, no patient has escaped from the hospital, and only very rarely from the ward, and no patient has seriously injured himself or others. I speak solely of my own service, but I think the same holds true of Dr. Thomas' service. This is what any man with insane hospital experience ought to expect, but some have seemed disposed to question whether, without the regime of an insane hospital with locked doors and violent wards, no restraint was feasible in an open hospital ward. Cases will undoubtedly occur which will give rise to trouble—suicides, escapes, assaults—but they occur even in hospitals for the insane, and they are not common. Cases of incipient mental disease, "borderland" cases requiring a period of observation to determine their mental state, even the emergency cases picked up by the police, can perfectly well be treated in the wards of a general hospital, as our experience in the last four years has shown. They make more trouble for the nurses and give them more work; they are a source of anxiety to the administration and the staff, but they can be dealt with without much harm, provided the physician knows how to deal with them.

Another question, which is often regarded as a bugaboo, is the legal status of these patients. It is urged that we have no legal right to receive such cases or to hold them against their will, or, if the patient be violent, to put him under restraint. This is perfectly true, and, of course, a very serious difficulty to which we usually pay no attention. Once in a great while a patient has stood upon his legal rights and demanded immediate discharge, but a few excuses and delays have given time for the necessary steps for commitment, when it has been necessary.

Four years' experience has convinced me that, even without a special psychiatric pavilion or psychiatric wards insane patients can be received and temporarily cared for in the open wards of a general hospital with comparatively little restraint and that such a procedure is attended with somewhat more trouble, but no great risks. The question arises, however, what is the good of it all? The statement of the trustees gives a partial answer which merits a little more consideration.

In the first place, if mental cases be received in a general hospital,

it is an easy way of dealing with cases of acute onset or the cases which fall into the hands of the police. A case of dementia precox, suddenly attacked with mutism and found wandering about the town acting strangely, can be brought to the hospital without delay, without legal formalities and without waiting to hunt up his friends, and can receive immediate treatment, just as if he were attacked by apoplexy or were the victim of injury. This is often of advantage and it may prevent neglect or ill treatment, such as the insane used to receive in police stations. With a psychiatric hospital within easy reach, if admission be not made too difficult, it may, of course, serve the same end.

Still more important are the cases which do not fall in the hands of the police, but who either come of their own accord or are brought by their friends. In such cases the general hospital can be of great service to the community in three different ways. A patient may present obscure symptoms which make the mental state a fit object of inquiry. He can be subjected to observation until a definite diagnosis and suitable provision for his future can be made, without any disturbing legal procedure and without alarming the patient or his friends with immediate processes of commitment. A patient in the early stages of some mental disorder can be thus cared for until it is easy to determine what is best to be done. The family is often very loath to admit that there is actual insanity and shrink from the formalities of commitment even though the nature of the disease and its probable outcome are fully explained. They grasp at every straw to avoid commitment to an insane hospital and suggest home care, a sanitarium for nervous diseases and the like. If the patient be taken to a general hospital they have a chance to watch his condition for themselves and to realize his unfitness for anything but asylum care. The idea of his insanity gradually grows in their minds and they become more reconciled to accepting the inevitable than they would be if the experiment had not been tried. Time is afforded for family councils, for personal investigation of desirable hospitals and for a fuller realization of the patient's actual mental state. The general hospital thus exerts a beneficial and desirable influence by lightening the burden of a family in its time of distress.

Finally, cases of short duration can be treated in the general hospital until they are able to return home and can combine treatment as out-patients, on the "after care" principle, until recovery is

complete, thus avoiding an official recognition of the "stigma of having been insane."

This stigma is of great influence upon the minds of the general public and it is by no means as unreasonable as we try to assume. It is unreasonable to regard insanity as a disgrace, but that belief is dying out, but it is not unreasonable to recognize the fact that insanity is to a considerable extent a stigma both economically and socially. The employer of labor, in the broadest sense of the term, may very properly question the efficiency of the employee who has been officially judged to be of unsound mind. Even if he has been allowed to go at large and has been pronounced recovered, has he the quickness of perception, the accuracy of memory, the intelligence, the judgment, the decision that are requisite? Is he as good as he was before or as good as the rival candidate who has never been adjudged insane? The answer to both these questions may be yes, but the employer is justified in asking them, and the mere fact that they can be asked excites a certain prejudice against the victim. It is his misfortune and not his disgrace, the question may be raised without any justification but the previous insanity remains as a handicap, and the employer is justified in doubting his efficiency as he would be in doubting the efficiency as a look-out man of the applicant who wore ten diopetre glasses.

Furthermore, until our modern craze for eugenics has passed to that land of oblivion where Annie Rooney watches the march of the Mulligan Guards, some will doubt, perhaps wisely, perhaps without reason, even if the state is not sufficiently up to date to have a eugenic marriage law, whether M. or N., if once adjudged insane, is a fit person to be joined in holy matrimony.

If, therefore, a person suffering from some acute mental disease, which does not impair his mentality afterwards or influence his future offspring, can be treated without an official, legal recognition of his trouble, it may be of great advantage, a positive benefit to the patient and the community.

That such cases can be treated and get well in the wards of a general hospital, even if the conditions for their treatment be not ideal, has been shown many times in the last four years. I will not go into details but indicate in a few instances what has been done.

A young musician, neurotic and with a bad family history, entered the hospital with a rather severe pneumonia attended with delirium. After the pneumonia had wholly cleared up he developed hallucinations, which seemed to him real, mental confusion and some delusions. He was transferred to the neurological service, where, after a time, the hallucinations began to lose their reality and the delusions subsided. He was encouraged to disregard his hallucinations and finally improved so much that he was able to go into the country with some friends. It seemed at first as if the trouble were likely to develop into dementia precox, but he eventually made a complete recovery.

A Russian Jew, speaking little English, came to Boston, where he met with some business disappointment. He was picked up by the police and brought to the hospital weak and cataleptic. Later he became confused and had hallucinations. He also seemed at first a typical dementia precox, but later, after the arrival of his wife and the straightening out of his financial troubles, he made a complete recovery.

An alcoholic patient was admitted to one of the medical services where he speedily developed delusions of persecution with hallucinations of sight, smell and hearing. Under the sway of these delusions he made a dramatic escape one night over the wall in his nightgown and was brought back by the police from Washington Street, where he was trying to board a car. He was transferred to the neurological service for commitment and gave a very dramatic account of his escape, detailing all the facts most accurately. After a few days of careful attendance and reassurance his delusions disappeared and he recovered completely.

A police officer, markedly alcoholic, but who denied syphilis, was admitted to the laryngological service with edema of the glottis, and tracheotomy was performed. After that he became much excited, tried to escape and was noisy and troublesome. He showed marked euphoria, considerable exaltation, lack of comprehension, slurring speech and the inconsequential manner of a paretic. There was failure of memory, the handwriting was suggestive and the pupils sluggish. He had, however, considerable insight, and, when I saw him in consultation, knew who I was and that I had been called in to determine his mental state, and commit him to an insane hospital. The Wassermann test in the blood and cerebrospinal fluid was negative, the globulin reaction was negative and there was no increased leucocytosis. He began to show less excitement so that I resisted the pressure to commit him, and a few weeks later was able to send him to the country, where he made a complete recovery.

It is sometimes said that a general hospital is not adapted for the treatment of the insane because it has not the facilities of an insane hospital. It is not adapted for permanent treatment. It lacks the opportunities for work, entertainment, exercise, out-of-door life, and recreation which are such important factors in our modern hospitals for the insane. It has, however, certain advantages which

are not to be wholly ignored. A few years ago a good deal was said about "bed treatment" in the early stages of the acute psychoses. That, of course, is what a patient is likely to get in the wards of the hospital. Furthermore, unless he be very demented or confused, he enters into an atmosphere of physical sickness which is inevitably impressed on his mind. He is in a ward with others who are manifestly sick persons, therefore there may be something the matter with himself, his hallucinations and delusions may be the product of physical disease. The suggestion of the hospital ward may help to establish an insight into his own condition. This, of course, may be a disadvantage in somatopsychoses of a hypochondriacal nature, but in other cases it may do good. In some alcoholic cases of a paranoid type, where the patient insisted upon getting up and leaving the hospital, I have found that the suggestion that the patient was in the hospital with other sick people because he was sick himself, and that he ought to stay a little longer until he was better, actually worked, and the patient stayed until he recovered.

If, therefore, the trustees can express themselves as they have in their last report, it is no emotional conversion but a simple recognition of what four years' experience has shown, that it is feasible for a general hospital, even without a special ward, a hydrotherapeutic plant and other aid, to receive and treat both doubtful and pronounced cases of mental disorder, with little restraint and without great risk of serious results; that it is also feasible to treat some cases of short duration until they recover; and that the reception and treatment of such cases is a benefit to the patient and his friends, by giving an opportunity for study of his condition, for deciding upon the proper disposition of the case, and, perhaps, by preventing the stigma which actual commitment may inflict.

I would go a step further and say that it is the duty of every large general hospital to take such cases. The mental patient has a claim upon the benefits of a public hospital just as well as the surgical, the gastric or the renal patient. To be sure the reception of such cases means some extra trouble, a few more nurses and more anxiety for the staff and the administration. The adoption of aseptic methods in the surgical wards meant much more trouble and vastly greater expense. There are certain risks involved, but our experience, though limited, has shown that they are not very great. Every good hospital for the insane has its escapes, its suicides, its act of violence. The general hospital may expect them as well;

they are a part of the game, but the benefits to the community outweigh them.

One word in conclusion. It is not practical to receive and care for such patients in a general hospital unless there be a special service under the charge of a visiting psychiatrist familiar with mental diseases and their treatment. The average American internist is too ignorant of mental and nervous diseases to deal properly with such cases. Something more is requisite than restraint while in the hospital and commitment at the earliest opportunity. The visiting physician must be familiar with mental diseases, he must be able to make a sound prognosis as well as diagnosis, must know how the patient is likely to behave and be ready to assume risks and to take proper precautions. He must have the control of his patients and their treatment without interference from administrative officers, and must be alone responsible for the treatment, the stay in the hospital, restraint and commitment. Only under such conditions can the reception and treatment of cases of mental disorder in general hospitals be of full benefit to the patient and the community.

[Since reading this paper I have learned from Dr. H. M. Adler that, at the Psychopathic Hospital, they had recently compared the death rate from alcoholism at several different hospitals, and that, since the establishment of the neurological service at the City Hospital the death rate from alcoholism at that institution, in spite of defective facilities for treatment, has been reduced one-half.]

ON THE MECHANISM OF CONVULSIVE PHENOMENA AND ALLIED SYMPTOMS

BY C. MACFIE CAMPBELL, M.D.

It is difficult in medicine to escape the narcotic influence of names and to keep alive a healthy curiosity as to the facts of experience and their interrelation.

Names, like the ideas of Plato, impose on us as objective entities outside of the individual facts. So in dealing with convulsive and allied phenomena, it is not easy to free oneself from the baleful influence of the words epilepsy and hysteria, and to think in terms of the modes of reaction of living organisms. It is, however, when we succeed in the effort to think in such terms that we are most likely to do justice to the individual case.

I propose, therefore, to discuss a few cases in such terms, not in the hope of throwing any light on nosological entities, but to see whether the symptoms can be made more or less intelligible.

To illustrate the point of view, one may take a symptom like headache and study the various settings in which it occurs. In some cases headache is adequately explained on a toxic basis, *e.g.*, the headache of kidney disease; at an equally simple level we can discuss the headache of brain tumor. In other cases the headache arises in the setting of an emotional reaction, and in emotion we deal with a more complex functional unit than is involved in discussing toxins and elimination, tissue anomalies and intracranial pressure.

In the case of other headaches we have to pass beyond the simpler conceptions of instinct and emotion and have to introduce associative material; the headache may become intelligible only when we consider those organized forces or trends that are grouped together under the conception of the subconscious, or whatever term may prove more acceptable to the purist. Still other headaches are woven into the conscious adaptation of the individual to his tasks, and help us to escape importunate visitors or to evade distasteful tasks, although with twinges of conscience.

To endeavor to find one simple formula suitable for all headaches would be a vain task; the symptom may be determined at any one of several levels, the ascending levels of organic integration.

The situation is further complicated by the fact that the symptom may be determined in the same case by factors at more than one level. Megrin headache, about which so little is known, may be assumed to arise at a simple level and not to require explanation in terms of the more complex factors of the personality; but in the case of the migrainous daughter of a migrainous mother, where the daughter has many repressed and poorly digested instinctive problems, who can apportion correctly the respective rôles of simple pathological physiology, of subconscious forces and of conscious adaptation?

The same problem meets us in relation to many other nervous symptoms, such as bed-wetting, night terrors, choreiform movements, stammering. The latest achievements in psychopathology have shown us how complex may be the determination of even a simple symptom like bed-wetting. A young man of eighteen had an isolated incident of bed-wetting after his father had urged him to make a public appearance from which he shrank; to understand the symptom it was necessary to descend to the roots of the personality. While such facts have to be recognized, one is entitled to protest against the formulation based on such a case being generalized, and applied to other cases which may be adequately formulated in terms of injudicious fluid intake, poor training, physiological inadequacy or simple emotional disturbance.

In relation to night-terrors, I see no reason to assume that this symptom must always involve reference to the most complex adaptive mechanisms, and may not sometimes arise at a much simpler level. I am well aware that night-terrors may be of most complex origin, that they may indicate tension in the most highly organized trends of the individual, and may spring from a blend of desire and aversion in relation to the fundamental instincts. The counterpart of night-terrors of such origin is to be seen in the waking life in the attitude towards something at once desired and dreaded, the anticipation of a mystery at once fascinating and terrible. All this may very well be true, and yet in other cases the symptom may arise at a much simpler level, and may require no reference to the complex elaboration of instinctive forces.

Choreiform movements in some cases are considered to be purely toxic manifestations (Sydenham's chorea), but similar symptoms may arise in the absence of toxic factors, as an adaptive mechanism by means of which repressed forces express themselves in a per-

missible disguise. Where a hysterical child, with a previous attack of Sydenham's chorea, seems to have a relapse, it is impossible to disentangle completely the rôle played by the impersonal factors from that played by the more complex determinants of human behavior.

With these facts in mind, one comes to the study of convulsive and associated phenomena with an open mind, willing to receive help from the most detailed chemical or histopathological studies as well as from the most detailed psychopathological researches, such as the recent work of Dr. Pierce Clark, and not disposed to see any opposition between the two lines of study. One will neither deny the value of psychopathological interpretations because some cases seem to be adequately explained on more elementary principles, nor will one employ psychopathological explanations as general formulæ applicable in all cases.

In a graduated series of convulsions or allied phenomena, ranging from those of simple to those of complex determination, the convulsions of uræmia and general paralysis would represent one end of the scale; at the other extreme would be cases in which the attacks have to be expressed in terms of adaptive activity with conscious and subconscious determinants.

The latter group may be illustrated by the case of a young man* of twenty-one, a farmer, who was brought to the hospital owing to a series of convulsions during the previous three days; he had been subject to attacks for several years. In the brief stay in the hospital he had several attacks, during which he thrashed around wildly and for which he professed complete amnesia; he also claimed amnesia for two episodes of elaborate pantomime which occurred in the hospital. On the fourth day after admission he was impatient to leave the hospital and said that he could control the attacks at will; that they had been developed in order to relieve him from uncongenial work. The reason why this method of evasion had been chosen was because these attacks came very easily; he had between the age of six to fourteen lived near an epileptic boy and had frequently imitated his fits. Such was the explanation given by the patient.

It would, however, be rather crude to accept this formulation as an adequate analysis of the whole situation. The fact that in

* This case was the subject of a communication made by Dr. J. E. Eidson before a joint meeting of the Washington Psychiatric Society and the Maryland Psychiatric Society of Baltimore, March 28, 1917.

boyhood he had reacted to the fits of his comrade by imitating them shows a peculiar responsiveness to a rather dramatic situation, a tendency to identify himself with the hero of the mysterious sickness, a facile translation of the phantasied activity into real movements on his own part, an absence of inhibition by those restraining forces which are the most valuable elements in personality.

The patient's statement that he imitated the other boy's fits meant no more than that the more or less automatic dramatization of the attacks was unchecked by trends of a higher level, but was in harmony with the conscious directing forces of the personality, *e.g.*, love of prestige.

The earlier episodes in imitation of the epileptic boy and the later episodes under the stress of uncongenial work were not to be understood in the light of some abstract fiat of the will, but as the expression of a special organization of the instinctive and affective life of the patient. It may even be debated whether such a constitution does not include a special facility or explosiveness of motor discharge, and whether the patient did not imitate the convulsions of the epileptic boy because of his constitutional kinship to the latter; there is much truth in the French dictum that one only simulates what one has. The patient was self-willed, superficial, unduly ambitious, with an extremely violent temper; his memory had somewhat deteriorated.

The analysis of such a case, in terms of the different levels at which the symptoms are determined, offers more than does its exclusive reference to one of a series of diagnostic alternatives—malingering, hysteria, epilepsy.

In the following case there was no indication of the collaboration of the official personality in the development of the attacks.

The patient, a lad of eighteen, like the former patient was a farmer, to whom his work was uncongenial. At thirteen he began to be nervous, shaky, and subject to palpitation; at seventeen one day he had a brief episode of faintness and dizziness; next day he fell unconscious, but did not have any jerking nor loss of sphincter control. During the following year he was subject to attacks of weakness and dizziness with shortness of breath and palpitation. In the hospital there was noted only slight enlargement of the heart, slight respiratory irregularity of the pulse, a pulse rate of 90 to 100 per minute, and profuse sweating of the hands and feet. When venipuncture was performed, the patient became pale and

lost consciousness; there were slight convulsive movements of the legs and arms, and of the jaw; a large amount of gas and a small amount of faeces were passed involuntarily. The whole episode lasted about one minute, and in half an hour he was in his usual condition.

Three weeks later when lumbar puncture was attempted the patient complained of feeling faint, had a slight general convulsion of less than a minute's duration; there was no loss of sphincter control. The pulse dropped to thirty-nine per minute, the skin was cold and pale. The patient claimed to have been conscious but unable to talk during the attack.

Lumbar puncture next day was followed by headache and vomiting. On the following day the patient had an attack lasting half an hour; the movements suggested those of coitus, the attack finished with a long sigh and general relaxation, but there was no erection nor emission. He could not be roused during the attack and had no memory for what transpired during the attack.

In this case determinants at the conscious level were not elicited; the attacks were to be considered either as the expression of factors at the subconscious level, or the expression of an idiosyncrasy of emotional reaction at the physiological level, or of a combination of these two factors. The rôle of subconscious sexual phantasies, strongly suggested by the last attack, may also have been important in the two earlier attacks, the reaction to the insertion of a needle.

It is, however, premature to assume that in all cases of fainting on trivial operations or at the sight of blood, the main determinants are subconscious phantasies; we must allow the possibility of individual idiosyncrasies of emotional reaction. The general nervousness of the patient from the age of thirteen and the earlier attacks of dizziness and weakness may have been determined neither at the instinctive nor at the subconscious level, but at the same level as the irregularity of the heart, and the profuse sweating.

According as one emphasizes the physiological idiosyncrasy on the one hand, or the rôle of repressed trends on the other, the case will be referred to epilepsy or to hysteria. As a matter of fact, the case is only adequately grasped when justice is done to both mechanisms. Can the discredited term hystero-epilepsy not be used in a perfectly honest and definite way?

The following three cases illustrate more clearly the rôle played

by the elementary physiological and emotional idiosyncrasy, while more complicated adaptive mechanisms are not in evidence.

A boy, seven and a half years of age, rather restless, with an irritating cough, given to violent tantrums, was subject to pain in the epigastrium on rising, and on his return from school. The pain was liable to appear under the stress of emotion. "If he gets frightened these pains come on him right away and make him pale and sick." One day he cut his finger, whereupon he fell on the floor, foamed at the mouth and kicked. On the following morning without known cause he had a similar attack. During the following year he has had no further episode; the irritating cough has disappeared.

A boy of ten, somewhat spoiled and irritable, on arising in the morning would be extremely pale and complain of malaise. He slept badly and had little appetite. On three occasions he fainted, the first time when he was vaccinated; the third time was at the age of nine during a physiology lesson at school. On the last occasion he was said to have been unconscious for over an hour. In the course of frequent interviews no psychogenic factors were apparent; careful examination of the heart disclosed no lesion, and improvement of his condition soon followed a healthy regime.

A girl of eight for several years had been subject to attacks of convulsive twitching, usually nocturnal; in the first attack she was apparently unconscious. One day she was bitten by a cat; when her father told her that she should suck the poison out of such a wound she became unconscious; her face and hands twitched. No psychogenic factors were elicited; the patient was a serious and conscientious child, somewhat reserved, subject to outbreaks of temper, rather dreamy, not much interested in her school work.

While in the two young farmers discontented with their work the symptoms seemed to require reference to the complex mechanisms of adaptation, in each of these three last cases we see one particular weak spot: In the first, epigastric pain is prominent; in the second, a vasomotor anomaly; in the third, muscular twitching; in each we see an idiosyncrasy in emotional reaction.

For the formulation of these cases physiological categories and those of the simple instinctive and emotional life may perhaps be sufficient.

An extremely important question is that of the rôle which these more fundamental disorders will play in the later adjustment of

the individual. Will they be modified by good regime and sound training, or will they become more deeply rooted through poor regime and habit and emancipate themselves completely from the control of the personality, conscious or subconscious; or will they be the handmaids of the subconscious and go halfway to meet its demands? So far as I know, at the present time these questions cannot be answered on the basis of clinical experience.

The emancipation from personal control of a motor reaction may be seen in the tic, or motor habit, which starting in the beginning as an adaptive act, subject to personal control, finally becomes independent and compulsive. The transition from the purposefully controlled to the independent and emancipated reaction may even be followed in such a complex type of reaction as the catatonic syndrome; this was the case in a patient accused of murder, who immediately after an interview with his lawyer developed a catatonic syndrome, which on later examination was found to have emancipated itself from the control of the personality (personal communication from Dr. Wm. L. Russell).

The same point of view may be illustrated by a second series of cases, presenting one symptom in common, namely, that of sudden and overpowering somnolence.

A young man of nineteen complained of being frequently overcome with sleep even during conversation or walking. He attributed the condition to the fact that from the age of fourteen he had deliberately cultivated the habit of falling asleep during tedious study hours. After a few months' practice he had become such an adept that he had merely to put his head down on the desk in order to fall asleep. He continued to indulge in this habit, but for more than a year previous to his admission to the hospital the habit had emancipated itself from his control; during reading, if he thought of sleep, he would drop off to sleep for an hour or so; the thought of the awkwardness of an attack during a conversation brought on sleep immediately. On one occasion he several times fell asleep at the wheel of his automobile and narrowly escaped disaster. In walking he would have brief spells of sleep and almost fall. The patient showed excellent physical health; there was no evidence of dyspituitarism.

The patient's explanation that the condition was merely the result of a habit is obviously inadequate. The sleep habit is not so easily cultivated and depends to a large extent on personal idiosyncrasy.

For sleep to have been so successfully cultivated until finally it emancipated itself entirely from the patient's control, a very marked individual idiosyncrasy must be postulated. Deeper affective roots of the disorder or any special adaptive values were not to be traced; it did not seem to have anything in common with the prolonged sleep of some depressions, nor with the defensive mechanism of stuporous conditions. One was entitled to assume that what appeared to be the product of voluntary habit formation was in major part due to latent constitutional idiosyncrasy; just as the artificial convulsions of the young farmer were not altogether to be credited to his higher level mechanisms.

That the sleep mechanism may have a certain independence is shown by Gélinau's case,¹ where there was no question of deliberate cultivation, but where the symptom developed, at least at the beginning, in an emotional setting. The patient, a cooper of thirty-six, found that, if he laughed heartily or contemplated a profitable piece of business, his muscles would become limp and he would fall asleep for a minute or so. Later the condition developed to such an extent that he would fall asleep several times during a meal. Although the observation does not include an intensive study of the personality and of possible undercurrents, it suggests the possibility of a more or less special type of reaction not of an adaptive nature, but based on a personal idiosyncrasy, at first elicited in relation to the emotional life. Further studies may demonstrate the adaptive nature of this reaction and may trace it to its subconscious and instinctive roots, but we are not entitled to assume that special subconscious factors are concerned in its production.

Reference may also be made to Löwenfeld's case,² a boy of seventeen, who from the age of thirteen showed a pronounced tendency to fall asleep suddenly at very frequent intervals. This seriously interfered with his school work, and later with his work in a factory. If he laughed, his muscles would relax, he would stagger, his knees gave way, he had to hang on to some support, he was liable to drop objects.

The imperative onset of sleep and the peculiar relaxation of the motor apparatus during laughter are interesting in view of the relation of the attacks of sleep in Gélinau's case to pleasurable excitement.

In cases like the following there is still less suggestion of the

symptom being other than a deep-rooted constitutional anomaly, unexplained by any special associative material. The patient, a Polish boy of fifteen, had at the age of six and again at the age of nine been subject to spells in which he would sit down and fall asleep. At the age of fifteen the spells returned; the patient would suddenly appear to fall asleep, and would sink upon a chair or fall to the floor. The eyelids would contract convulsively for a few minutes, the teeth be clenched, but the tongue was never bitten. There were no clonic or tonic movements of the limbs. The boy would seem to sleep for about twenty-five minutes and then would wake up. The patient was of very limited intelligence and had been unable to get beyond the third grade.

In this case the attacks had neither been encouraged by the boy, nor had they appeared in any special emotional setting; they seemed to have no relation to the complex factors that make up the personality, but to be related to the lower levels of the patient's reactive mechanism.

SUMMARY

The review of cases of convulsive and allied phenomena discourages the application of a general formula to all cases, or the distribution of the cases among a limited number of nosological entities, hysteria, epilepsy, psychasthenia, etc. In each case the problem is: How far can we deal adequately with the symptoms in merely physiological terms, how far must we take into consideration the instinctive and emotional patterns of reaction, to what extent are the complex factors of the subconscious and the conscious life involved in the development of the symptoms?

Where the symptoms occur in early life the prognosis must be made after a careful estimate of all the reactive assets of the individual, and not merely on the basis of statistical probabilities. The treatment must be directed not merely to the demonstrable or hypothetical physiological anomalies, but must take into consideration the formation of habits, the regulation and assimilation of the instinctive and emotional life, the forces involved in the interplay between the subconscious and conscious realms.

Perhaps some symptoms which on statistical grounds are far from encouraging may be modified by good regime and wise training.

a fair environment and sound mental hygiene, and may disappear instead of becoming fixed through habit and emancipating themselves from the controlling forces of the personality.

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THE CLINICAL AND ANATOMICAL FEATURES IN ALZHEIMER'S DISEASE AND RELATED CONDITIONS *

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In 1906 Alzheimer described an atypical mental disorder occurring in middle life. It was striking in its insidious development, its rapidly progressive course and the profound grade of dementia reached. Throughout the later course of the disorder, focal-like symptoms of an aphasic and asymbolic character were prominent; this was the more striking because of the absence of paralytic phenomena. At autopsy the brain showed a high grade of fairly symmetrical atrophy, and disclosed microscopically a widespread peculiar degeneration of the nerve cells. This latter change showed especially well in silver preparations in an altered stainability, thickening and coalescence of the neurofibrillæ, and finally in knarled skeletal neurofibrillar rests, the plasmatic substance having dissolved and disappeared from the nerve cells. In addition to these nerve cell changes there were numerous plaques, hereinafter described, scattered principally through the cortex.

As early as 1898, Redlich, with less refined methods, demonstrated these plaques in two cases of senile dementia, and Nissl and Alzheimer, on similar material, confirmed, his observations in 1904. The demonstration, however, of these changes in the brain of an individual dying in the presenile period was first made by Alzheimer. Since Alzheimer's original communication in 1906, some seven or eight other comparable cases have appeared in European and American literature in almost consecutive years: Bonfiglio, '08, Perusini, '09, Bielschowsky, '10, Lafora, '10, Barrett, '11, Alzheimer, '11, and Fuller, '11. Other contributors, on related and correlated material,

* Read before the New York Psychiatric Society at the November meeting in 1914.

have been Fischer, Wada, Oppenheim, Huebner, Sarteschi and Achucárrro. To some extent the discussion has been of a controversial character—Fischer's views being the most divergent. Kraepelin, in the last edition of his work on "Psychiatry," has given a summary description of this disorder and designated it deservedly as Alzheimer's disease.

Because of its recent recognition, its rather special clinical and anatomical features, its relation to, and mistakable identity with several other brain disorders and the small number of cases reported, this disease becomes of somewhat special interest. During the writer's connection with the New York Psychiatric Institute and the Manhattan State Hospital, '04 to '12, the following cases were referred for further study; several of these have been reported at inter-hospital conferences and are now presented in summary clinical and anatomical form. To the several state hospitals where the original clinical observations were made and from whose reports the following abstracts were prepared the writer wishes to acknowledge his indebtedness; the scope of the paper requires that they be brief:

CASE 1.—(Manhattan State Hospital.) A. G. was an Italian of forty-nine, his father was alcoholic, his mother was insane. The patient had little education. He worked as a laborer and was quite alcoholic. The onset of his psychosis in the 40's was gradual; at 46 he did not work so well as usual, kept more to himself, began to act strangely, wandered about at night and was restless by day. Shortly before admission at forty-nine, he rambled in his talk, became more forgetful, unable to care for himself or to be cared for at home. At Bellevue he was silly and childish in his behavior, talked and muttered to himself, and made irrelevant, incoherent replies to questions. On admission to the Manhattan State Hospital, January 6, 1911, he constantly fumbled with his clothing and failed to comprehend questions. His speech was indistinct, his words disjointed and distorted and his replies incoherent and irrelevant babblings. He coöperated equally poorly in the physical examination. The pupils reacted sluggishly to light and accommodation, the knee-jerks were exaggerated, fingers tremulous, speech indistinct and test phrases distorted. For a time he continued in a rather restless, stuporous state, but later became increasingly more helpless and mentally enfeebled and died February 1, 1911, of inanition and exhaustion, three weeks after admission. Because of the marked mental dilapidation and suggestive physical signs the diagnosis of general paralysis, cerebral type, was made.

At autopsy the brain appeared atrophic, weight 1,155 grammes. The pia was rather hazy and diffusely thickened over the convexity, slightly so over the base. The convolutions were considerably narrowed, the sulci

widened. The left hemisphere appeared slightly more atrophic than the right. This became more evident if one compared symmetrical convolutions on the two sides; especially was this true with reference to LF² and LF³. The vessels showed no sclerosis; their walls appeared slightly more opaque than normal. (The microscopic changes in each case are discussed in common with the other cases at the close of the clinical report.)

CASE 2.—(Manhattan State Hospital.) M. F. was also a man of forty-nine. His family history was negative except that one brother was said to be insane. The patient was healthy as a boy, of normal make-up, a bright student, a graduate of the public school, afterwards efficient as a grocery clerk, but on account of intemperance he often lost his position. At forty-one, supposed to be tubercular, he was sent to the Metropolitan Hospital from which he was discharged as cured at forty-four, but was weak, unable to work, and lived with his sister, who soon noticed that the patient was absentminded, forgetful and foolish, incapable of bringing out his words properly and finally unable to talk intelligently or write well, to understand requests or comply with commands. He became more and more deteriorated in his manner, uncleanly in his habits, and was taken to the City Home at forty-eight. Here he remained one week. He was described as childish, stupid and unable to care for himself and was transferred to Bellevue, thence to the Manhattan State Hospital, October 25, 1910. Here the patient was dull and indifferent. He took no interest in anything but lay in bed, fussed and fumbled with the bedding, wet and soiled himself, resisted care and treatment; occasionally he would smile, perhaps laugh in a silly way, stutter, stammer or grunt in reply to questions. Asked his name, he replied: "fo-too-ur-ur-fu," etc. Asked to repeat words, *e.g.*, "pig": he yelled out "pe-g-g-g-g," etc.

"Do you like it here?" He laughed in a simple, silly way.

"Where do you live?" He grunted.

The physical examination showed a man somewhat under weight and prematurely senile looking. There was marked arcus senilis, equal pupils which were irregular in outline, said to be immobile to light and sluggish to accommodation; there was relative integrity of all special and general sensory organs and motor functions, except for some impairment of coordinative acts. His gait was slow and uncertain, his station unsteady with a tendency to lean, even to fall backward. The deep reflexes were equally active. There was tremor of the eyelids, tongue, hands and fingers and fibrillary twitching of the facial muscles and of the left arm and hand; his writing was an unintelligible scrawl. His organic reflexes were uncontrolled.

In order to analyze more carefully the gross dementia in this case, an aphasia examination was attempted. So far as the elementary sensations were concerned, *viz.*, hearing, vision, taste, smell and general sensibility, all were probably intact, but the patient was unable to understand or carry out simple spoken commands. "Give me your hand." He said: "Yes." "Open your mouth." He said: "Au-e-u." "Shut your eyes." He blinked, but did nothing more. "Stand up." (No response.)

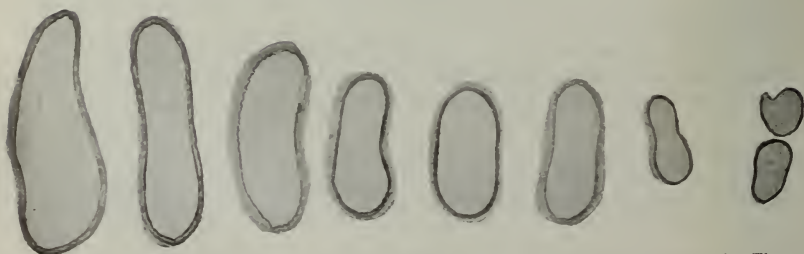
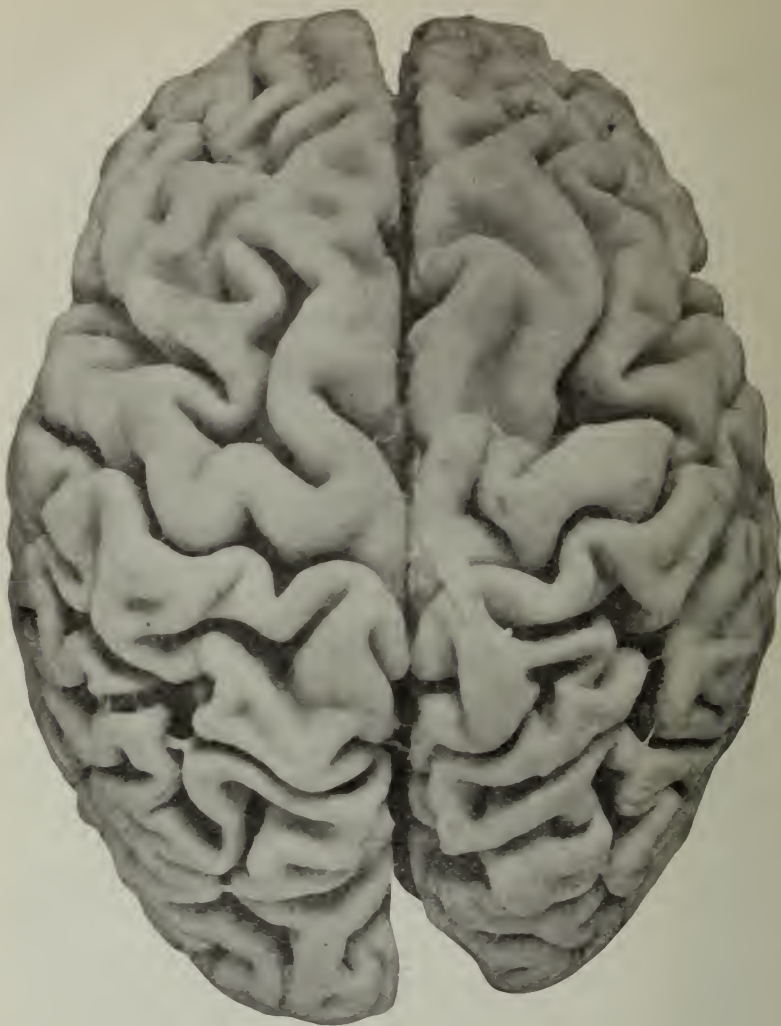


PLATE I. A vertex view of the brain from Case II. The pia has been removed. The central convolutions appear almost normally full but the frontal and occipital convolutions are quite atrophic and narrow and the sulci wide. The cross sections of the vessels at the bottom of the plate are from the larger cerebral arteries and their branches and show the entire absence of arteriosclerotic changes.

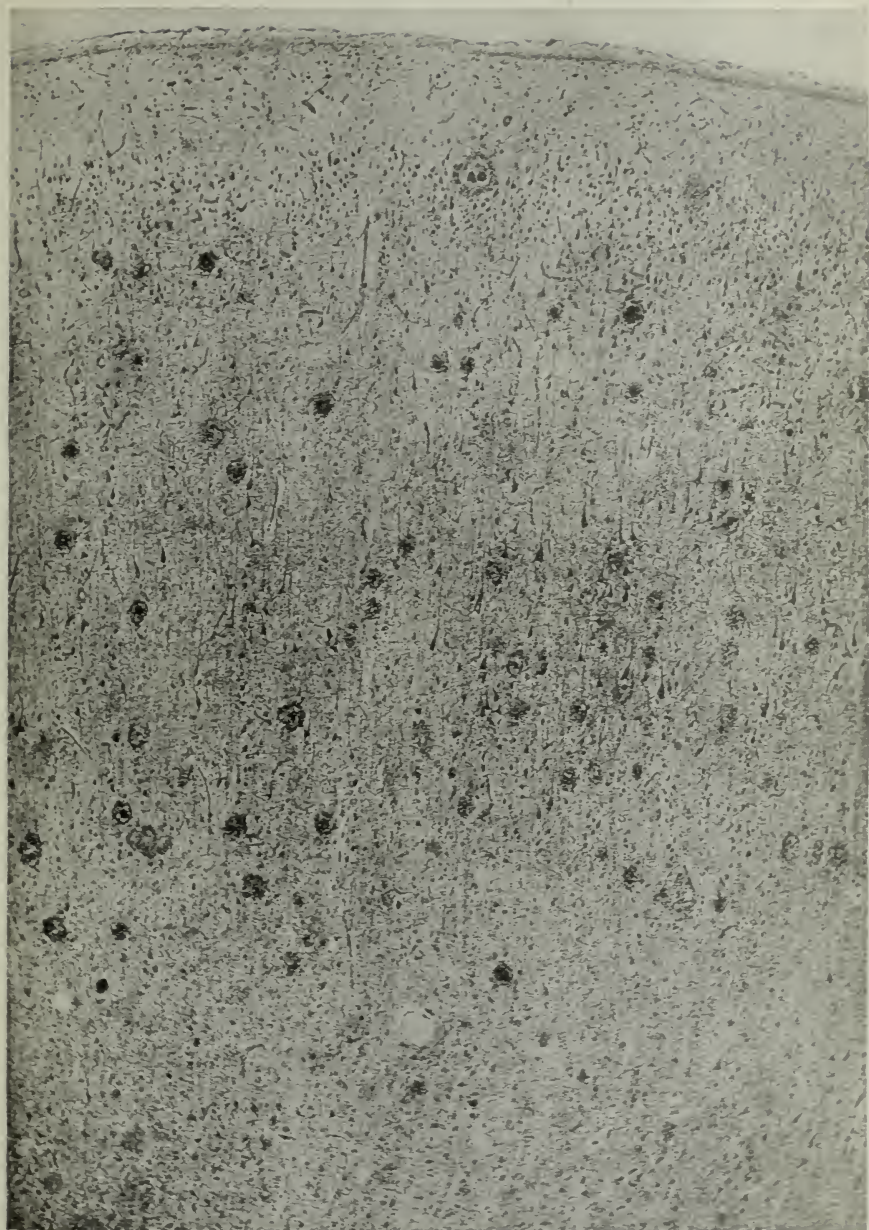


PLATE II. A photomicrograph of a Bielschowsky frozen section silver-preparation. The number and distribution of the plaques, the dark staining bodies, is well shown; some are larger than others, a few show twin formation. The concentric construction of the plaque is readily seen. Attention is called to their absence from the first layer of the cortex in this case and their almost uniform distribution through the several layers of the cortex. Generally the plaques are most abundant in the second and third layers of the cortex. In Case I the plaques were almost five times as abundant as in this illustration from Case II. The nerve cells are seen as thin pyramids.

He was unable to appreciate or adequately respond to different sounds and to probably familiar tunes. He recognized certain letters, figures and words. On being shown B, he said: "B"; for C he said: "C-C"; O. K., "O. K. O."; C. O. D., "C. O. D. D. D."; 6, "6"; New York World, "War-wor-world-world-world," but showed no response to simple written or printed commands. He recognized certain objects as such, but not to name them. He appeared not to understand illustrated acts, *e.g.*, fiddling, piano playing, etc., but apparently comprehended a few simple orders when indicated by appropriate signs and responded to certain gestures and defensive acts as sparring, putting out of the tongue and shutting of the eyes.

On the motor or emissive side, spontaneous speech was essentially quite absent or at the best consisted of an occasional monosyllable but usually of inarticulate syllables, babblings or mutterings; he was unable to give any series or rows, recite, spell or calculate, unable to name objects, but he indicated their appropriate uses, at least those of his eating utensils and of food. He was unable to repeat words or sentences, said: "Tat" for cat. "Hat" for house. "Yes" for yes and "Yes-yes" for horse and merely jumbled the test phrases. Given a pen he held it correctly, wrote a capital M, MM with much perseverance of the strokes, then scribbled illegibly on the paper. For a time he used eating utensils and chose his food appropriately. In the further course there was increasing deterioration, resistance to care and treatment and finally death from inanition and exhaustion.

At autopsy there was a high grade symmetrical brain atrophy, a diffusely thickened, mildly turbid-looking pia, beneath which there was considerable fluid. The central convolutions appeared normally full, the frontal, temporal and occipital convolutions were strikingly narrowed and the intervening sulci much widened. The cerebral vessels were everywhere thin and totally free from atherosclerosis. The cerebellum and spinal cord were not remarkable. (The microscopic findings with those of Case 1 are summarized and illustrated in Plates I, II, V, VI and IX.)

To summarize, we have here two cases, both men of forty-nine, without significant heredity or makeup, but with a history of alcoholism. In each there developed slowly and insidiously, without attacks of unconsciousness or convulsions, a most profound dementia. The onset was first evident in inattention, indifference and absent-mindedness; later became more manifest in declining efficiency, progressive impairment of memory, retention, grasp and poverty of thought, followed by aimless, restless, foolish behavior and increasing mental dilapidation which went on apace toward an apathetic dementia, incapacity to comprehend, to talk, to walk and a bedfast state in which the patient muttered and mumbled and fussed and fumbled, and pulled at his bedding, wet and soiled himself, chewed a little

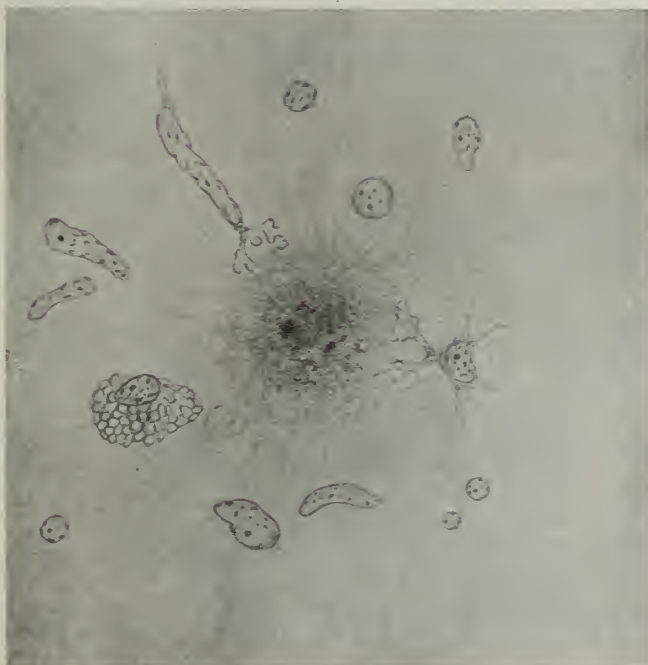


PLATE V. Pencil drawings of toluidin blue preparations showing selected plaque formations with special reference to cell types, their orientation and content. The cells are mainly of gliogenous origin, some of them are rod or Indian club shaped and directed radially toward the plaque and in both illustrations the proximal ends of some of the cells are like pseudopodia and lie in intimate relation with the periphery of the plaque. Other more adult fiber building cells with honeycomb structure and refractive granular content are seen in the lower illustration. The orientation and content of these cells rendered by different stains (see Plates VI and VII) suggest the scavenger as well as reparative nature of these different cells.

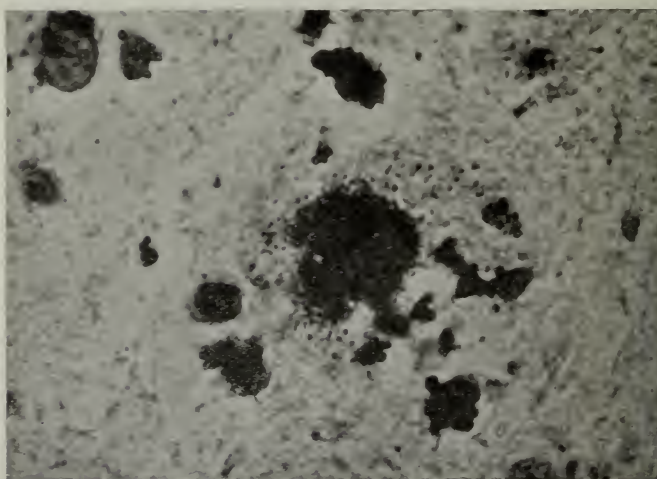
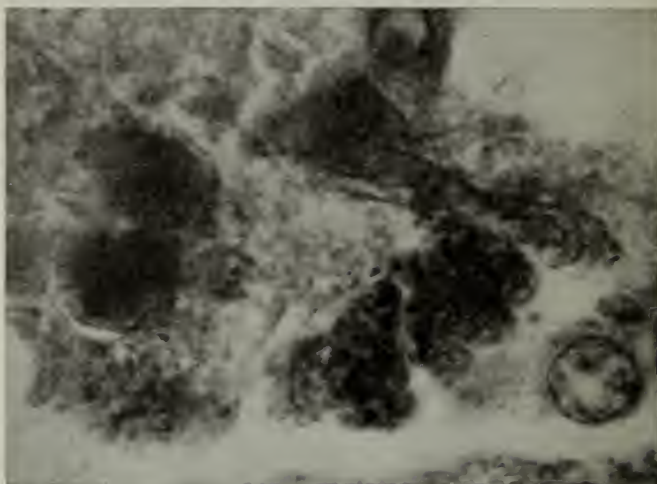
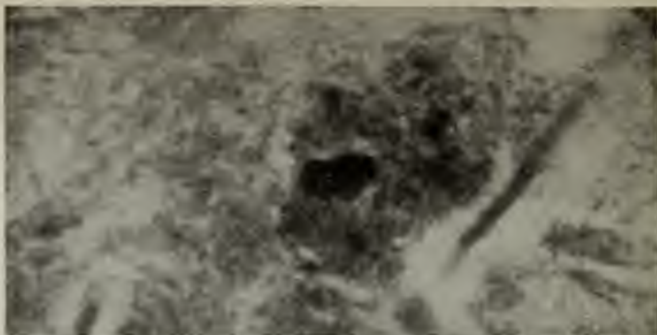


PLATE VI. Three photomicrographs. The upper one is of a mitotic figure of a neuroglia cell showing faintly the spindle formation beneath the chromatin. In the second illustration (Mann's stain) several glitter and granule cells are seen in proximity to three plaques; unfortunately the photomicrograph does not bring out well at all the extensions and relations of these cells to the plaques as in Plate V. In the lower illustration (Herxheimer's fat stain) the highly fatty nature of this plaque is shown, the red staining fat showing black; toward the periphery of the plaque the fat granules are best seen. In the immediate vicinity of the plaque heavily laden fat containing cells, appearing black, in the illustration, are seen; the nuclei are lost to sight except in those cells most remote from the plaque and not so full of fat. Compare Plates V and VI for interpretation.

and gulped down what was put in his mouth and vegetated for a time and died like a decerebrated animal.

Among the more striking symptoms in these cases were the outstanding symptoms of agnosia, aphasia and apraxia. An exact analysis of these focal symptoms presented considerable difficulty, since to an impaired general recognition, word understanding and expression, there were added a general dementia and an unresponsive, resistive attitude. It is certain at any rate we have to do very early with a conspicuous idea and word poverty, which in the further course increased to a complete loss of spontaneous speech without gross paralytic symptoms developing, so that we might probably conceive of the aphasic symptoms resting largely on the marked dementia present and somewhat in the nature of a mixed sensory-motor-transcortical aphasia. When apraxia symptoms occurred they were mainly of an ideatory nature. In relation to the aphasia and apraxia disorder the absence of paralysis or even limited impairment of motor function is of interest and should be remarked in relation to a differential diagnosis.

Two similar cases with the process clinically and anatomically more localized might be summarized:

CASE 3.—(Central Islip State Hospital.) F. G. R. was a railroad clerk of sixty-two, at one time alcoholic. Because of declining efficiency he was transferred to easier work at sixty-one, but he became increasingly forgetful, childish, irritable and was taken to Bellevue, January 2, 1909. Here he was described as restless, confused, with marked retention and memory defect. Asked if his memory was poor, he said: "Of course it's like—it's likely—I might forget, but I could not remember—let's see, what did you ask me—I can only have better—the one must give itself to the other—always so much," etc.

On admission to the Central Islip State Hospital in January, 1909, he was cheerful, tried to coöperate in the examination, but was easily confused and complained of his poor memory. His pupils were sluggish to light, his visual fields and hearing were normal, deep reflexes exaggerated; no paralysis but unsteady gait, tremulous tongue and fingers. He tried to talk, but his speech was largely unintelligible after the first few words. A partial aphasia examination showed the following:

What is your name? "F G. R." (C)

Your occupation? "I have been any-any to."

Where born? "England." (C)

What year? "This is 34-40-this is 51."

What month? "The first in-its-it-it-f-f-f-it-ten-I-think-it is going to dinner."

When were you brought here? "I could not exactly-look-like-look like a book."

Shown the sentence, "Express train crashes into a sleighing party," he read: "Express train crashes-passes-asses-at sleighing party." His understanding of sentences was not ascertainable. He repeated words and phrases perfectly. His efforts at writing resulted largely in a fumbling perseveration of the initial strokes. He handled a pencil properly, played billiards and lighted a cigar correctly, using the right hand. He complied with simple commands and gestures and seemed to understand most simple questions, but not complicated ones.

His spontaneous speech consisted more and more of meaningless syllables, understanding became less and deterioration more marked, conduct disordered, amounting finally to an untidy, restless, fumbling enfeeblement.

Autopsy here too showed a rather symmetrically atrophic brain, hazy pia and the complete absence of atherosclerosis, but high grade cortical changes as hereinafter described in connection with Case 4, in both of which the cortex involvement exceeded the gross appearance of such.

CASE 4.—(Middletown State Homeopathic Hospital.) H. C. C. This patient was a spare old man of 71, of good stock and normal make-up, moderately alcoholic. Evidences of deterioration appeared in the sixties with a change in his personality and declining memory. He failed to recognize old friends, was vacillating in his mood, sometimes agreeable, again irritable and obstinate, ate ravenously and wet and soiled his clothing. In talking the patient repeated many words and at times was unable to finish what he was saying. This became increasingly worse so that he had great difficulty in expressing himself and most of his talk was a jargon or gibberish. He became restless at night, was up and about at times, whistled and sang, at times talked and argued with imaginary persons and tried to strike them. On admission to the Middletown State Homeopathic Hospital his pupillary reflexes were normal. A right hemianopsia seemed present, there were general bodily tremors and a tendency to muscular tension and rigidity, no paralyses. Blood pressure 120. He continued restless and anxious to be on the go, was very irritable when restrained. His attention wandered and he evidenced little grasp of the questions asked, answering all questions incoherently, most of his talk being a jargon-gibberish. He paid no attention to simple commands, but shook hands when the physician held out his hand, put out his tongue on his physician doing so. He tried to open a knife handed him; given a quarter said: "20-100-100-20." One day he put his hand in the hot stove without appearing to know what he was doing. He did not seem to know what food was for and had difficulty in carrying it to his mouth and required spoon feeding. He took a pencil in his hand clumsily and improperly and he did not try to write when asked to do so. In the further course of his illness he failed both physically and mentally. There was much aimless restlessness, wandering up and down, putting on a sheet as a shirt and pulling and hauling at the bedding by the hour. Deterioration progressed and death occurred from exhaustion and nephritis.

Autopsy in this case showed, instead of a symmetrical high grade brain atrophy, a lobal atrophy involving particularly the left parieto-occipital lobe. The cerebral arteries, aside from the regressive changes, were free from atherosclerosis. The illustrations comprising Plate III and IV are from the atrophic area in this case.

In these two patients, one sixty-one and the other seventy-one, there likewise developed gradually, without cerebral irritation, apoplexy or paralytic phenomena, evidences of deterioration. In addition to the diffuse nonsystemic symptoms of dementia there stood out in the first case a diffuse aphasic or paraphasic disorder, largely of a sensory type at first, later of both a sensory and motor transcortical type. There was little motor or ideatory apraxia in this case. In the second case there was also considerable paraphasia and jargonaphasia, but more prominent were the symptoms of motor, more particularly ideatory apraxia. Here, too, must be remarked the absence of objective paralyses, although in the second case a right hemianopsia was suspected and anatomically properly so.

I wish to refer briefly to another case for purposes of comparison:

CASE 5.—(Manhattan State Hospital.) M. C. The patient was a woman of fifty-six, moderately alcoholic. At fifty-four there was a brief period of unexplained amnesia, after this time a gradual and increasing loss of memory with periods of confusion; commitment became necessary four months before death. The husband said that his wife became "restless, foolish in behavior and mixed up in her talk." At the Manhattan State Hospital the patient thought she was at home, misidentified persons, fabricated freely in her talk. "Where do I live? There I am again—put it down—it is the day time but I don't know whether it is forenoon or afternoon." At first she was alert in her manner, made an effort to appear to the best advantage, but was guarded in her talk. Later she showed some difficulty in thinking, often using the wrong word. Remote memories disappeared, recent memories became more vague and ill-defined, retention was nil after thirty seconds and the clinical picture resembled that of a Korsakoff or presbyophrenic syndrome. Neurological signs were lacking beyond a slight tremor and a speech defect and omission of letters in writing which was poorly done. In the further course of the disease there was progressive deterioration, aimless, restless behavior at night, uncontrolled organic reflexes. The immediate cause of death was from a subdural hemorrhage.

The case is admittedly impure clinically. There was moderate alcoholism, probably insufficient to produce or account for the Korsakoff syndrome. There was no history of trauma but such can not

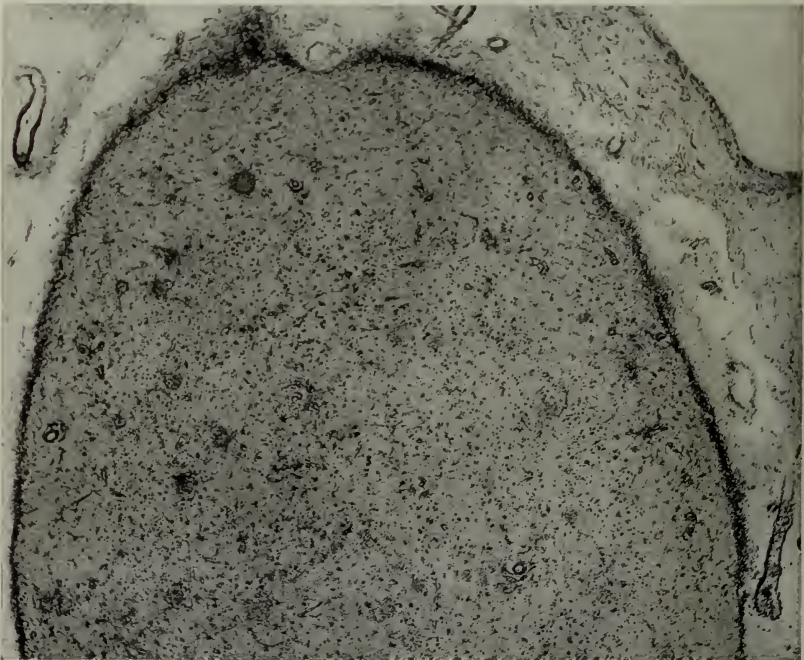
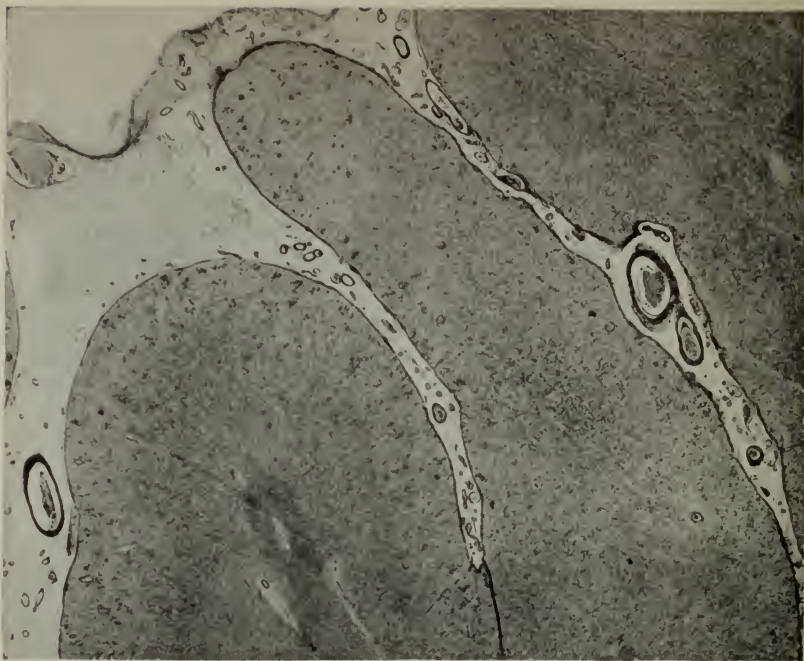


PLATE III. Two illustrations from Case IV. The upper one is a general view of the convolutions showing circumscribed atrophy in the left parieto-occipital lobe; the lower illustration is a higher magnification of the narrowest convolution in the upper illustration. The stain employed was after Mallory's neuroglia method. This method renders the neuroglia very well but the connective tissue less satisfactorily and the pia and vessels are consequently somewhat clogged. The hypertrophy of the superficial neuroglia in the first layer of the cortex is conspicuously marked and hardly less so in the deeper layers of the cortex where numerous spider cells and coarse neuroglia fiber nests are to be seen. Almost no nerve cells remain in the very narrow convolution and they are much reduced in number in the contiguous gyri. This method does not demonstrate the plaques well except where there has been neuroglia hypertrophy and gliosis; an occasional plaque shows this gliosis beautifully. The connective tissue changes in the arteries and capillaries are not remarkable.



PLATE IV. In this plate two photomicrographs of comparable areas of the cortex are shown; in the illustration on the left the nerve cell-layering of the cortex is well preserved; the nerve cells themselves are well preserved and the number of nerve cells is not diminished. In the illustration on the right the pronounced reduction in the number of nerve cells, especially in the second and third layers of the cortex, is striking as is also the shrunken appearance of those nerve cells still remaining; this section is from Case IV with parieto-occipital lobe atrophy.

be excluded as a thin rust-colored membrane lined the dura over the left hemisphere; however, the gross appearance of the cortex was everywhere intact and healthy looking, but microscopically there was seen a high grade widespread parenchymatous degeneration described in the foregoing cases; the lipoid degeneration of the nerve cells was exceptionally marked. (Plate VII.) The more probable condition was a premature presbyophrenic complex. The distribution and character of the anatomical changes in the main were like those occurring in the two preceding cases and are of special interest in relation to the syndrome present.

In reporting the anatomical facts in these cases a mass of detail has been omitted, the studies of Alzheimer, Simchowicz, Fuller and others supplying well the known facts concerning this group of cases and related material. A summary of the findings of the case as a whole is presented, this as far as possible, by means of illustrations.

The most important features of gross anatomy pertain to the degree and distribution, sometimes circumscription, of brain atrophy present and the complete absence of arteriosclerotic changes in the vessels to account for the same. In Cases 1 and 2 a high grade, fairly symmetrical atrophy of the brain was found (Plate I, a vertex view of Case 2). The brain weights in these two cases were 1,155 and 1,270 grammes, respectively. The central convolutions in all cases appeared almost normally full, the frontal convolutions atrophic, the temporal, parietal and occipital convolutions rather strikingly atrophic in all cases, particularly so in Case 4, somewhat so in Cases 3 and 5. This is the more interesting not only because atrophy in normal senile involution usually involves the frontal pole of the brain, but because of the determination by the degree and circumscription of the atrophy of certain clinical symptoms. In relation to the atrophy the consistency of these brains seemed somewhat increased on palpation; nowhere were foci of softening or areas of focal gliosis seen or felt.

The connective tissues were not involved except in a regressive way. The pia was somewhat hazy and lay rather loosely upon the narrowed convolutions; the widened intervening sulci contained considerable fluid. The cerebral arteries in all five cases were everywhere free from atherosclerotic changes. The vessels shown in Plate I (Case 2) represent random sections from basilar, carotid, posterior, middle and anterior cerebral arteries and their branches. Regressive changes only were demonstrable in the larger as well

as in the smaller vessels of the brain in all cases. The muscularis of the larger vessels showed considerable fibrosis; the nuclei pyknosis; the vessel sheaths accumulations of yellowish refractile pigment; gutter and granule cells were common in the perivascular lymph spaces. No lymphoid nor plasma cells were seen in the pial or vascular lymph spaces. Rare mast cells were seen, but here scarcely presumptive of a chronic inflammatory process.

In Plates II and III are shown low power views of the cortex. Plate II is a photomicrograph of a frozen section stained after Bielschowsky's silver method; it is from the left superior temporal convolution. The pia is absent. The superficial neuroglia feltwork of the first layer is noticeably thickened. The remaining portion of the first layer is not remarkable. The absence of the concentric plaque in this layer and their almost uniform distribution through the other layers of the cortex is conspicuous. The nerve cell layering is somewhat obscured by the large number of plaques as well as by the numerical reduction of nerve cells. The number of plaques varies considerably in the different cases; in Case 1 the number ran as high as 350 to 400 to the microscopic field (No. III objective and No. III eyepiece), being more than four times as abundant as in Case 2, Plate II here shown. In the individual case the number of plaques present and the nerve cell loss corresponds rather closely with the degree of gross atrophy. In the central convolutions few plaques were present; in the frontal, temporal and occipital lobe cortices they were most abundant; in the cerebellar cortex the plaques were fairly numerous, also in the deeper lying nuclear structures of the brain, *viz.*, in the corpus striatum, midbrain and brain stem; in Case 2 a few isolated plaques were found in the substantia gelatinosa of the posterior horns of the spinal cord. The plaques were most abundant toward the apices of the convolutions, fewer at the sides or in the depths, not infrequently seen in the first layer of the cortex, by far the most abundant in the second and third layers of the cortex. In Cases 1 and 2, the number of plaques were practically symmetrically equal in comparable areas of the two hemispheres; in Cases 3 and 4 the asymmetrical distribution of these plaques, more accurately the atrophy in Case 4, was quite demonstrable. In Plate III a photomicrograph of a Mallory neuroglia preparation from the left parietal lobe, angular gyrus of Case 4, shows the maximum degree of lobal atrophy present in this case. The atrophy involved particularly the parietal field

and, to a considerable extent, almost the entire occipital pole without respect to vascular fields. Studying the two illustrations comprising the plate, the lower one being but a higher magnification of the most atrophic convolution in the upper illustration, one sees that the degree of cell loss and neuroglia hypertrophy is enormous. Analysis of the nerve cell loss with reference to cell layers did not seem profitable, but that the reduction in the superficial layers was most marked is readily seen. The hypertrophy of the neuroglia as seen in the superficial feltwork of the first layer is quite striking and the coarse fiber-producing neuroglia cells of the cortex were readily made out everywhere. The number of plaques is not extraordinary; originally they may have been much more abundant, as many of the forms present suggest resolution without focal gliosis; others, however, plainly show a transitional, if not a permanent glial cicatrization. The connective tissue in the pia and the vessels show regressive changes. Nowhere were vascular changes found sufficient to account for the local or lobal atrophy present.

In Plate IV are shown two photomicrographs of comparable areas from the normal brain (left) and from an area of atrophy in Case 4 (right). The pronounced reduction of cells in the latter case, particularly in the second and third layers of the cortex, is conspicuous as well as the shrunken sclerotic appearance of many of the nerve cells still remaining. The rather wide distribution of the atrophy in relation to the rather limited clinical data did not seem to make a closer analysis of the nerve cell loss, with respect to layers and possible functional values, profitable in this instance at least as Pick has suggested might be the case.

A closer analysis of the plaque formations by all applicable histological methods has not completely elucidated their origin and structure. A higher magnification of a Bielschowsky frozen section silver preparation shows the general morphological features of the plaques exceedingly well. A favorable section shows, through an equatorial plane, the plaque to possess a central nuclear portion having a sharp border, and staining rather intensely, and possessing a fairly homogeneous structure; in no instance were nerve cells or nerve cell rests actually seen in this portion of the plaque. This central portion of the plaque is regularly surrounded by a wider, somewhat lighter staining zone composed of amorphous homogeneous small masses resembling, if not identical with, the central portion of the plaque imbedded in organized tissue consisting of cell elements

largely of a gliogenous character and nerve cell processes and axis cylinders; the extremities of the latter undergoing changes in some instances comparable to neuroglia fiber terminations, and because of variability in the electivity of the silver for nerve and neuroglia processes, mistakes in identification of these two elements in the area of the plaque may easily be made. With the Nissl-Alzheimer toluidin blue method, Weigert's and Mallory's neuroglia methods, Herxheimer's Scharlach R. method and Mann's stain, as well as Bielschowsky's silver method, important and interesting histological details of the plaque are demonstrable. In the toluidin blue preparations the plaque stains only lightly, the nuclear portion light blue, the peripheral portion a paler tone; the displacement of the local nerve cells and proliferation of the neuroglia elements best mark the location of the plaques. The local neuroglia cells in the main are oriented radially with reference to the nuclear portion of the plaque, deployed like fish playing about bait. Plate V shows pleomorphic forms of these gliogenous elements present; active rod or Indian club shaped cells with plasmatic processes are quite common, the proximal ends of such cells like pseudopodia are very often directed toward and often into intimate relation with the nucleus of the plaque, suggesting a scavenger function on their part; refractive granules in the cytoplasm of these cells and lipid reacting material in other more adult forms of these cells, *i.e.*, gitter and granule cells, would seem to justify this inference. (Compare with Plate VI—Illustrations II and III.) Other neuroglia elements, some with pale nuclei scantily clothed with cytoplasm and other cells, whose nuclei are darker with a cell body producing coarse fibers, and others containing in their cell bodies yellowish or blue-green pigment granules, can readily be made out with stronger magnifications. Preparations stained after Mann's method support these observations. With Herxheimer's Scharlach R. method, the central or nuclear portion of many of the plaques, especially in Cases 1 and 2 and 5, was seen to contain a lipid reacting material in the form of fine granules—Plate VI; in some instances a more diffuse stainability was observed with a tendency to early fading, suggesting a loose affinity and possibly indicating a low or special lipid content in comparison with the lipid material in nerve, neuroglia and adventitial cells which stain and retain the Scharlach R. more tenaciously. In Plate VI the lower illustration shows the fat content of the plaque and the neighborhood cells laden with fat, the fat

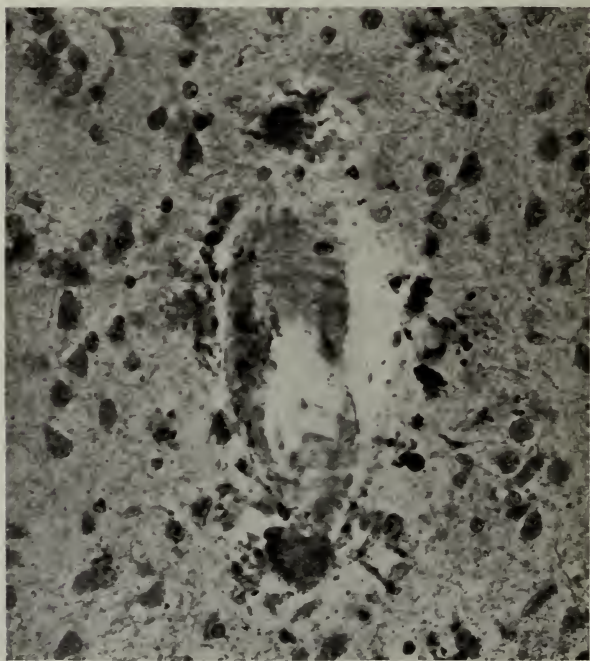
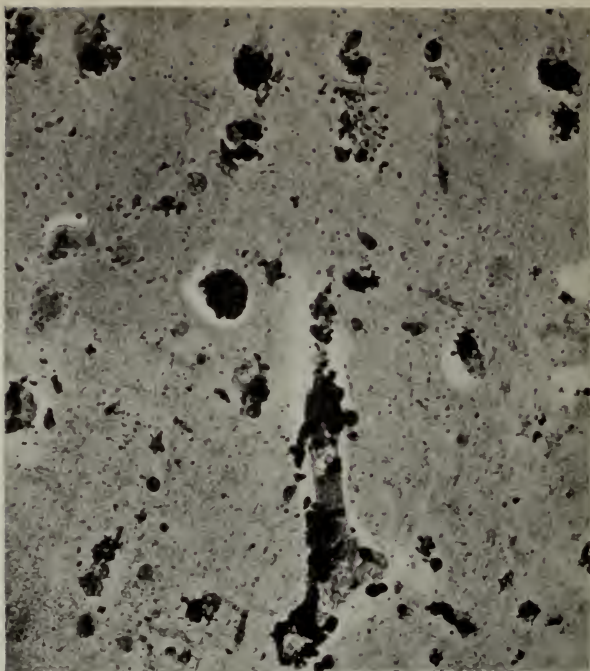


PLATE VII. Both illustrations are from Scharlach R, Herxheimer preparations (Case V), and indicate the extraordinary amount of lipid reacting material, showing black, in the nerve cells, the neuroglia and the vascular sheath. In the lower illustration, a vessel is cut obliquely; at either end is a plaque showing a Scharlach R fat reacting content. Of equal interest is the apparent increase in the amount of lipid material as one approaches the vessel, some of the neuroglia cells being heavily laden with black granules and masses, implying a concentration of this material the nearer one approaches the vessels.

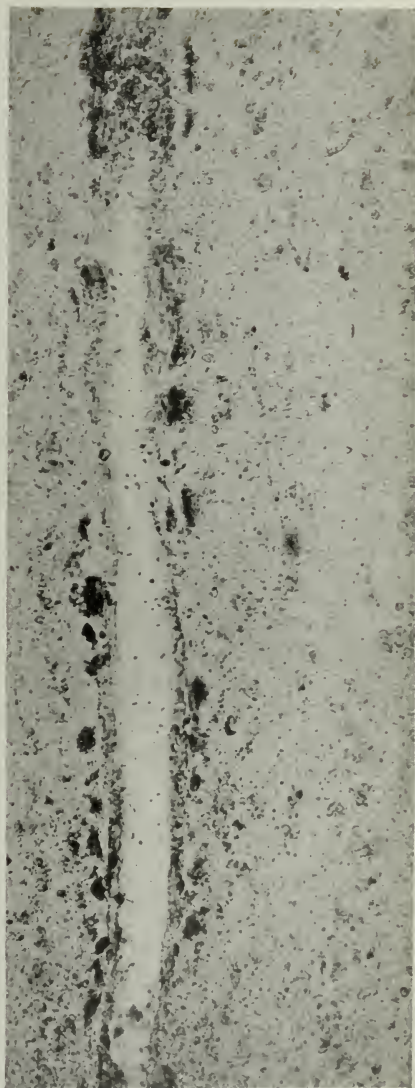


PLATE VIII. Illustrations from selected preparations, the left stained after Bielschowsky's method, the right after Herxheimer's Scharlach R method; both show the extraordinary number of plaques along the course of the vessels; the considerable amount of lipoid material in the plaques in the second illustration is evidenced by the black staining character of the plaques.

appearing as black granules in and about the plaques and in the cells as black masses. The nerve cells in all cases were especially rich in lipoid material; not only the basal portion but the apical dendrites and sometimes the axis cylinder of nerve cells were dilated with lipoid material. Especially abundant was the fat in the vessel sheaths and perivascular lymph spaces which were often crowded with free fat and loaded granule cells. In Plate VII the concentration of fat-laden cells and tissues as one approaches the vessel is well seen; this was not an infrequent finding in Case 5 where the fatty degeneration of the cortex was very pronounced. In Plate VIII are shown two illustrations, the left from a Bielschowsky preparation, the right from a Herxheimer preparation. Both show the presence of a large number of plaques in close relationship to the vessels, implying apparently a concentration of the products of degeneration or especially favorable conditions for deposition.

Weigert's and Mallory's neuroglia methods show a tremendous neuroglia hypertrophy in all cases. This hypertrophy is apparent even in low magnifications; in some sections, as in Plate III where the superficial neuroglia feltwork of the first layer of the cortex is much thickened, it appears as a black, intricately woven mesh. With a higher magnification a general hypertrophy of the neuroglia is seen throughout the cortex and the medulla; in the main the hypertrophy arises from coarse fiber producing glia cells, the processes on the one hand often intimately related to the plaques while other processes extend away to end with foot-like terminations upon vessel sheaths. Many of the neuroglia cells have a scant cytoplasm and fine fibers, others have short coarse bow-shaped fibers. Favorable Bielschowsky preparations also show well the enormous degree of hypertrophy which may occur in these cases, as in Plate IX which is from Case 2; with ordinary stains the neuroglia hypertrophy would hardly be suggested in this case. Frequent spider cells are seen in the cortex as well as in the medulla. Amoeboid neuroglia cells after Alzheimer's method were rarely seen except in isolated areas where regressive neuroglia changes preponderated; this was an infrequent observation.

As to the nature and the origin of the plaque formation considerable interest pertains. Fischer emphasized their prevalence in presbyophrenic cases and attached a special emphasis to their pathognomonic significance; further studies have shown that he probably overestimated their importance in this relationship. Reviewing the

literature with special reference to the nature of these plaque formations, theories beyond the facts have been offered and the writer himself has not been free from unsubstantiated speculations concerning them.

Redlich, who first observed them, regarded them as glial proliferations; Fischer, as *sphaerotrichia multiplex cerebri* and applied bacteriological technique to their study; Perusini as depositions in an altered neuroglia reticulum; Bonfiglio as necrotic remains of degenerated nerve cells; Huebner as deposits of degenerated material; Sarteschi and Brodmann as special degenerations of the neuroglia; Wada as necroses; Alzheimer believed that they came about through the deposition or precipitation of some still unknown metabolic product. ("Ablagerung irgend eines noch unbekannten Stoffwechselproduktes.") In the center of the plaque no nerve cells or recognizable residuals of nerve cells are to be seen; the nucleus of the mass consists of an unrecognized amorphous structure staining brown with iodine and possessing in the more acute cases at least a lipoid reacting material. In the periphery of the nucleus of the plaque certain reaction phenomena on the part of the tissues occur. Active neuroglia elements, some of them resorbing in function, judging from their appearance and content, others encapsulating, all apparently reparative, may be seen. The displacing effect of the nuclear portion of the plaque upon the local parenchymatous tissues and the reaction of the neighborhood tissue to the plaque would seem to indicate its irritative and foreign character and comparability for example to corpora amylacea as Alzheimer has suggested. Like the other pathological changes, sclerosis and pigmentary degeneration of nerve cells, general gliosis and regressive connective tissue alterations commonly occurring in senile involution, the plaques too must be regarded as an accompaniment and not a cause of senile involution.

In addition to these peculiar plaque formations almost uniformly present in large numbers in the brains of these cases, Alzheimer also described a peculiar fibril degeneration of the nerve cells which is also rarely absent in these cases. This alteration in the neurofibrillae of the nerve cells is especially well seen in favorable silver preparations and shows itself in an altered stainability, thickening and coalescence of the neurofibrillae and as the changes progress, the disappearance of the plasmatic substance and nucleus of the cells, leaving temporarily snarled skeletal neurofibrillar rests which in turn degenerate and disappear. Achucárro, supported by Lafora, believed

that these fibrillar alterations were probably extracellular in origin. But it has been satisfactorily demonstrated, and further confirmation is brought in the accompanying photomicrographs (Plate X), which seem to leave little doubt as to the intracellular origin of these fibrillar structures as Alzheimer originally maintained.

In Plate X are pictured a series of these fibril altered cells showing early, intermediate and late phases of the neurofibrillar alterations. In Illustration I, the cell outline and component structures of the cell appear well preserved, the striated appearance of the nerve cell body indicates the position of normal fibrillæ, the nucleus is displaced toward one side of the cell, its capsule and nuclear structure and nucleolus are fairly well preserved, the neurofibrillæ in the direction of the apical dendrite may be well made out, the *black* staining skein in the left base represents the early coalescence of the neurofibrillæ and the beginning of the fibril snarl which is further pictured in the other illustrations. In the second illustration the same general features are to be seen but more advanced. The cell outline is more vague, the nucleus and its integral structures more opaque, the neurofibrillar system coarser, the snarl more advanced and more intimately related to the internal neurofibrillar system. In the third illustration the cell outline is replaced by a skeletal basket, only a semblance of the cell outline remains, the nucleus and plasmatic substance of the nerve cell have entirely disappeared and only the coarser coalescent impregnated neurofibrils remain for a moment as a skeletal rest.

The description of the fibril changes by Alzheimer can be scarcely improved upon but the cause and the course of development of these changes, though much studied, are still not fully understood. Seldom are the largest pyramidal cells affected but principally the cells of the second and third layers of the cortex. It seems probable now that the fibril alteration takes place initially in individual fibrils, usually in those portions of the cell where pigment is deposited. Presumptively the change which occurs is of a chemical nature, the fibrils becoming impregnated with some substance which is strongly argyophilic as well as argentophilic. Simchowicz, in senile material, and Alzheimer, in a case of circumscribed senile atrophy, observed a special form which this fibril degeneration underwent, the end stage of which resembled a concentrically striated mass occupying the greater part of the cell and tinctorially strongly argentophilic.

In summarizing the anatomical and clinical facts in these cases, the comparability of the gross and microscopic qualitative findings with

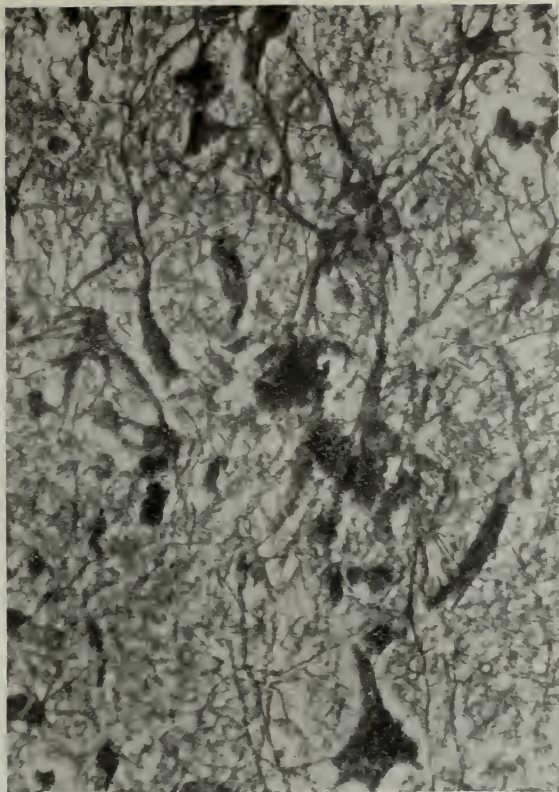


PLATE IX. Both illustrations are from Bielschowsky preparations in which the neuroglia reacted better than the nervous parenchyma and demonstrate the striking hypertrophy of the neuroglia, indicated by the coarse fiber producing cells as seen in the upper illustration; the plaques are represented by the black staining masses. The nerve cells remaining appear granular or sclerotic and distorted. In the lower illustration the short stout bow-shaped neuroglia fibers with their convex surfaces toward the nuclei are clearly shown. The tremendous hypertrophy of the neuroglia is one of the remarkable histological features of these cases.

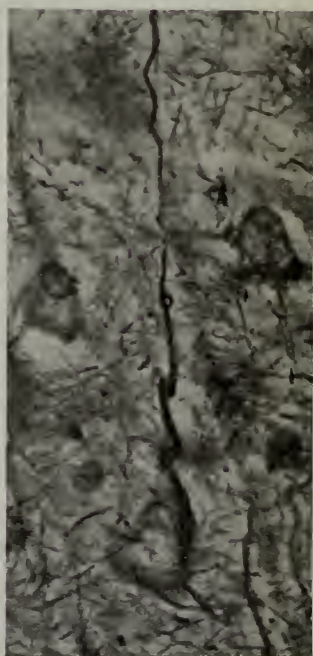
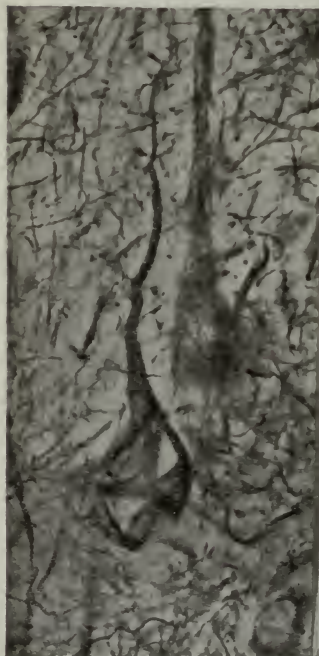
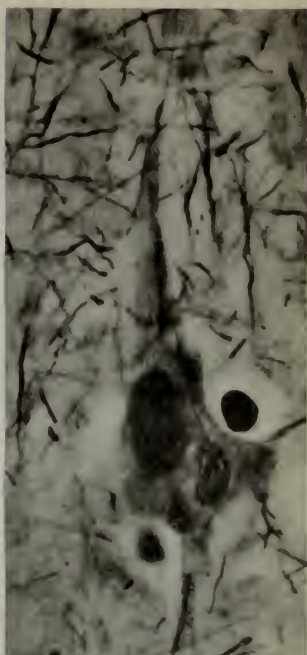
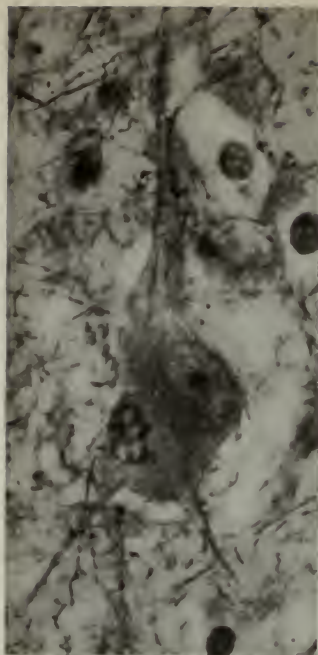


PLATE X. Photomicrographs of Bielschowsky silver preparations. Described in alphabetical order the left upper illustration shows rather beautifully an early stage of the neurofibrillar alteration in the dark staining *skein* in the left basal portion of the cell; the other neurofibrillæ are suggested by the striations; the nucleus and nuclear structures are fairly transparent but displaced to one side of the cell. In the second preparation the *skein* appears more advanced, the nucleus more opaque. In the lower left illustration the neurofibrillar coalescence is complete, the nucleus and the plasmatic content of the nerve cell have disappeared leaving a skeletal neurofibril structure resembling a pendant basket which in the last illustration has begun to dissolve.

those occurring in senility and senile dementia must be remarked. Quantitatively, both the gross and microscopic features are much more marked in these earlier cases. Furthermore, the involvement not only of the anterior but of the posterior portions of the brain, sometimes with a definite tendency to a lobal atrophy, sufficient when occurring in the leading (left) hemisphere to call forth focal-like symptoms, attaches a special interest, if not significance, to this group of cases. The pathological changes underlying the topographic atrophy have never been adequately studied. The atrophy appears to develop irrespective of vascular fields and condition of vessels, which inclines one to believe that some abiotrophic process underlies the condition predisposing the area to earlier structural involution. In Cases 3 and 4 in the atrophic field were not only the plaques more numerous but the fibrillar changes were more severe, the nerve cell loss more pronounced and neuroglia reaction more marked than elsewhere in the brain. The prototype of this disorder is probably represented in the Lissauer types of general paralysis.

The clinical features in all cases, perhaps simple enough in retrospect, offered considerable difficulty in the matter of differential diagnosis during life. In nearly all cases, particularly 1, 2, 4 and 5, the onset at an early age would seem to preclude simple senile dementia from consideration. The rapid course and grave dementia with the appearance of aphasic and agnosic symptoms, and some ataxia, might suggest a brain tumor but pressure symptoms were absent. An arteriosclerotic brain disease could be excluded because of the grave dementia and dilapidation of the personality present and the absence of any peripheral arteriosclerosis or history of antecedent headache, vertigo, apoplectic attacks or paralytic symptoms. A typical general paralysis might be considered most probable, as in Case 1, but the fluid findings should control this. An atypical Lissauer type of general paralysis might be thought of in all cases, especially Cases 3 and 4. Alzheimer reports such a case with a positive Wassermann in both blood and spinal fluid, which proved to be typical of general paralysis microscopically but atypical in distribution. The observations in relation to personality and intellectual defects and distribution of cortex involvement might be suggestive in a differential diagnosis. Traumatic insanity might be considered but only in one case was there such a possibility. Alcoholism may have played a minor rôle but the essential features of a chronic alcoholism were lacking in all cases.

These cases are presented for their individual casuistic value as they do not lend themselves well to a composite summary. The gradual onset at an early age, the rapid course and development of a profound dementia, associated with which were aphasic, agnosic, and ideatory apraxic symptoms, and these in the absence of irritative or apoplectic paralytic attacks, should indicate a widespread parenchymatous disease, in type most comparable to a grave senile dementia. While these cases might be identified with the larger group of senile dementia (and the relationship is frankly admitted), it would be not only more accurate but more useful to make distinctions for both clinical and anatomical reasons.

In Cases 1 and 2 the early appearance of the symptoms, the profound grade of dementia attained and the focal-like symptoms present are all almost regularly absent in senile dementia. Moreover, the anatomical changes, while similar in kind and direction, are more severe than in senile dementia. The progressive impairment of memory, retention and grasp and dilapidation of the personality in these cases imply a diffuse nonsystematized parenchymatous degeneration of the brain. On the other hand, keenness of perception suffered, impressions became less well fixed, processes of thinking were interfered with and the train of thought broken up, with a consequent paraphasia but more especially perseveration. The perseveration representing poverty of thought and the path of least effort reached its maximum manifestation perhaps in these cases; it did not stop at topics, phrases or words as it generally does in the arteriosclerotic cases, but reached over to syllables, letters, finally a babble and a grunt, representing the minimum of active mentation and emotion. Further, it seems very probable that certain word amnesias and paraphasic disorders (Cases 3 and 4) may on this basis indicate a waning excitability of the auditory-sensory field (Pick). Certain of the transcortical disorders may have a similar basis. Likewise certain hemianopic affections, evidences of mind blindness, asymbolic disorders and ideatory apraxias may be correlated principally with (left) parieto-occipital lobe involvement. Defects in identification and retention and symptoms of aphasia, agnosia and ideatory apraxia occur, if not exclusively, at least prominently in relation to parieto-temporo-occipital lobe involvement; therefore, from comparative studies of cases in which the personality is well preserved, *e.g.*, cases of cerebral arteriosclerosis and certain Lissauer types of general paralysis as compared with the usual case of general paralysis and

senile dementia including the cases here presented which show a serious dilapidation of the affective life and personality of the individual, one may infer a certain relationship between the preservation of the personality and the integrity of the frontal portions of the brain which are ordinarily well preserved in cerebral arteriosclerosis (all the cerebral arteries terminating posteriorly). In senile dementia and general paralysis on the other hand, the frontal lobes are ordinarily gravely damaged except in those atypical cases in which the frontal lobes largely escape and where the personality is strikingly natural. This observation is offered not so much as a specific correlation of function and topography as to call attention to the general symptom complexes occurring in these cases in relation to the diffuse nonsystematized degeneration of the brain in certain of these cases and tendency to circumscription in others. Finally, the individual Case 5 is of special interest because of the early age of onset, rapid course, well developed syndrome and marked anatomical changes present, both features serving to emphasize the relative independence of this subgroup of cases as well as to point the way for more intensive study upon them.

While attempting to perceive the distinctions between the individual cases and subgroups of cases, the fundamental continuity and relationship of the several cases here presented with the larger groups of cases belonging to senile involution, as well as the essential unity of the underlying pathological processes in all, are readily recognized.

It seems not out of place at this time, when Professor Alzheimer's death is so fresh in our memory, for the writer to express his deep appreciation of the splendid personality of this excellent investigator, in whose laboratory it was his privilege some years ago to work. No investigator has contributed more of real and lasting value to neuropathology than he and in his death psychiatry has lost one of the few who have advanced it most.



A CASE OF CHILDHOOD CONFLICTS WITH PROMINENT
REFERENCE TO THE URINARY SYSTEM; WITH
SOME GENERAL CONSIDERATIONS ON URINARY
SYMPTOMS IN THE PSYCHONEUROSES
AND PSYCHOSES¹

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Beneath the stream of the adult life childhood undercurrents flow on steadily, not infrequently betraying their presence by eddies on the surface; of recent years the ever-widening recognition of this principle has been a prominent feature of psychopathological research. To detect these undercurrents, to give its due value to each delicate component force in the adult life is a task requiring a nice discrimination. The validity of the conclusions in the individual case can only be established by means of a wide corroborative material, and to those unfamiliar with this material the conclusions often seem arbitrary; this explains in part the scepticism shown with regard to many of the results derived from the intensive study of the psychoneuroses in the adult. A genetic psychology, based on the more profound insight into the mechanisms of the adult psychoneuroses, must be supported by the direct study of normal and of neurotic children. An example of such a study is the well-known communication of Freud on the phobia of five-year-old Hans.²

This study, however, loses much of its value owing to the indiscreet questioning of the father and the over-refined interpretations of Freud; in order to be convincing, data must be obtained more spontaneously and must not require such an elaborate interpretation.

The aim of the present communication is to present the case of a girl, who was studied from the age of seven to the age of eleven at the dispensary; at the end of that period she spontaneously gave the key to her symptoms, the meaning of which had been long suspected.

¹ Read before the New York Psychiatric Society, January 2, 1918.

² Analyse der Phobie eines fünfjährigen Knaben. Mitgeteilt von Sigm. Freud. *Jahrb. f. psychoan. u. psychopath. Forsch.* Bd. I. Abstracted in *The Psychoanalytic Review*, Vol. III, No. 1 (January, 1916).

At first the most prominent symptom was an obsessive questioning, which seemed to indicate an intense curiosity which did not dare to seek direct satisfaction; later her unusual interest in water and in the plumber's sphere attracted attention, and this was apparently the indirect expression of her interest in her own urinary apparatus. Her extraordinary interest in the urinary apparatus was accompanied by various anomalies of urination. At last she told naïvely how she derived pleasure from her urinary behavior, and in this pleasure there was a sexual as well as a urinary component.

The frank admission of the pleasurable nature of the urinary activity in this case throws light on many cases with urinary symptoms in childhood; *enuresis diurna* or *nocturna* may be due not to any physiological inferiority but to the fact that it yields a certain pleasure. The pleasure, it is true, may not be acknowledged nor even clearly realized by the child. In so far as *enuresis nocturna* is the expression of the attainment of such a pleasure during sleep, it may be compared to the later nocturnal pollution related to the sexual system; in both cases there may be no conscious conception of a desired pleasure as goal. It is quite unwarranted to generalize the above statement and to claim that *enuresis nocturna* is always the equivalent of a pollution; such unwarranted generalization has done much to discredit the work of Freud and his pupils.

The value of the present case is not confined to the light it throws on urinary symptoms in childhood; it also contributes to the understanding of urinary references and symptoms in the adult psychoses and psychoneuroses. In this case during the period of childhood we see certain trends expressed, not altogether frankly, but in a much less disguised and complicated form than is usual in later life. What in later life is apt to be represented by obscure undercurrents is here disclosed in the open at the source.

To illustrate the complicated form in which these same elements may present themselves in adult life, a few cases chosen almost at random may be quoted; these cases taken along with that of the seven-year-old girl show how the study of the child and that of the adult supplement each other.

The first case gives an example of a very complex setting for the urinary symptoms; the patient presented an excitement more schizophrenic than manic in type. On one occasion he drank his urine and said it was the spirit of his mother; he explained that he urinated in bed by saying that he did it to purify himself. These reactions

are only intelligible in the light of the immature phantasies of the child, persisting at the subconscious level, and breaking through to the conscious level in the adult behavior.

In the second patient, a psychoneurotic with sadistic obsessions, we meet the same elements, the drinking of the urine and the reference to the mother, in the setting of a dream, which was one of a series of urinary dreams. The dream was as follows: "I am in a cave, there are enormous blocks of ice of all dimensions; in an angle one of these blocks melts, which produces a little cascade of water (this calls up a memory of my mother urinating in a neighboring room)—my mother is in the dream—at the end I find I have my mouth full of icicles and of fish-bones—at the slightest movement I feel that all that is going to descend and choke me—my mother comes to my help and, in drawing these objects out of my mouth, she also draws a sea-anemone which was fixed on my tongue and was sucking me." This patient as a boy had the idea that in coitus the woman drinks the urine of the man; he remembered going on his hands and knees to urinate in imitation of a horse; his sadistic obsessions were closely related to his morbid delight at any early age in seeing coachmen whip the forelegs of horses. These data recall Freud's five-year old Hans with his phobia of horses.

A young woman, during a schizophrenic excitement, both in her utterances and in her acts laid great stress on the same elements, and these utterances and acts evidently symbolized her sexual conflicts and ruminations. At times she retained her urine: "I thought I was hurting my own family when I did that (*i.e.*, urinated) and I refused to do it three or four times." She interpreted catheterization as a sexual assault, "the gay young nurses came in to put me in the family way, have a baby, not to urinate." She several times tried to drink her urine; when told to urinate she said: "Do you mean it literally? I take these things symbolically. . . . I felt that I was passing the water of the world and unless I drank it, I was making other people drink it. . . . I'm handing my urine to my mother" (*cf.* the first patient drinking urine, the spirit of his mother; and the icicles in the mouth of the second dreamer). The sexual symbolism of urination was obvious; she said to the physician, "if you make water in my mouth I will drink it." She claimed that in early life, during perverse sexual relations, a relative had asked

her to urinate in his mouth; it is possible that this was a phantasy, but it indicated how closely urination and drinking urine were associated in her mind with sexual intercourse.

In the above cases the urinary behavior and the references to urination show its symbolic value, its significance as a sexual activity; but the symbolism in these cases does not seem to develop because urination is in itself a source of gratification nor because it is directly influenced by or influences the sexual function. These cases show that urination may symbolize sexual intercourse for other reasons than because the activity of one system can directly excite the activity of the other system. The symbolism is here not explained by the frequently conjoined activity of the two systems, it does not arise in the same manner as a conditioned reflex; it is based rather on the similarity of the two functions, and on the anatomical "final common path." The child conceives the mysterious unknown in the only terms familiar to him, in terms of urination. This childhood substitution of one system for the other has to be kept in mind in interpreting urinary symptoms in the psychoses, whether the symptoms be incontinence or retention, odd urinary habits or obscure references to urine and urination. The symbolism may not be specifically related to the sexual system; the schizophrenic patient, who wets the bed and claims to be a baby, utilizes the urinary symptom as a symbol of that stage of existence to which she would like to regress in the face of adult difficulties. Even here, it is true, the symptom may be determined in part by the actual gratification derived from urination, and in part by the persistence into adult life of the early immature conception of sexual activity.

The satisfaction yielded by urination is in some cases considerable, as is shown in our seven-year-old patient and in the case of a woman reported by Havelock Ellis.³ In such cases the urinary system has a direct importance as a source of pleasurable sensations, and not merely a value borrowed from the sexual system. There is no warrant for regarding this urinary satisfaction as essentially of sexual nature, although the satisfaction derived from the two systems is often inextricably blended. More than one somatic function yields its own special satisfaction, and to insist on reducing the latter in

³ The Relation of Erotic Dreams to Vesical Dreams, *Journ. Abn. Psych.*, Vol. VIII, p. 137.

every case to the common denominator of sex has for its only sanction an unsupported dogma.⁴

In the case reported by Ellis the extent to which bladder distention and urination may be pleasurable is strikingly shown. The subject of his communication, a woman of thirty-five, wrote as follows: "A slightly distended bladder is always exciting and the act of relieving it is perhaps more of a pleasure than the discharge of any other usual function."

She stated that in girlhood she had indulged in phantasies of urinary orgies; "had I not, at a fairly early age, fallen in love and led thereafter a normal sexual life, I might have cultivated the art of urination for its own sake." The presence of a sexual element in the satisfaction is certainly indicated, but at the same time urination here seems to have an independent value as a source of pleasure; this fact differentiates such a case from the previous cases where the urination derived its main importance from associative material.

In a third group of cases the urinary symptoms are based on the close relationship which exists between the activity of the two functions, owing to which excitement in one system tends to radiate into the other. An example of this is furnished by a patient of Freud,⁵ a young woman, who had an obsessive fear of incontinence of urine; the basis of this fear was an experience when she was under some sexual tension, accompanied by a desire to urinate. The obsessive fear which developed omitted the sexual reference and was limited to the urinary system.

The reaction to the conjoined urinary and sexual experience may be simpler than in the above case. Thus a teacher, thirty-one years of age, complained of a constant desire to urinate and laid so much stress on the urinary symptom that her physician diagnosed cystitis; the symptom had developed, however, when she was much distressed by erotic feelings, by "convulsions" in the vagina, which were related to erotic reveries. Here there was no defense in the way of a

⁴ It is to be regretted that White in his recent work on *The Principles of Mental Hygiene* subscribes to this dogma, which runs counter to common sense and the most obvious biological facts: "That all pleasure founds in the last analysis in sex pleasure is an hypothesis forced upon the analyst by his daily experience" (p. 299). [Not counter to common sense or to biological facts—who would presume to pretend to know either?—but counter to Campbell's beliefs.—Ed.]

⁵ *Sammlung kleiner Schriften zur Neurosenlehre aus den Jahren 1893-1906*. S. Freud. 2^e Auflage, p. 87.

phobia, but a direct appeal for medical help with reticence as to the sexual element in the situation.

The urinary symptoms may be utilized not for the solution of internal conflicts, but in order to meet a definite external situation. Urinary symptoms may be thus utilized by married women, whose attitude toward adult responsibilities is immature, who have difficulty in assimilating normal sexual activity, and to whom marital relations are more or less distasteful. The patient may at the same time complain of sexual symptoms; on the other hand no reference may be made to the sexual system, or it may be referred to only incidentally.

A young married woman complained of vaginal sensations, of an uneasy burning feeling, which made her sleepless; she complained of frequent urination and of burning on urination. She used douches as a treatment for the vaginal sensations. For many years there had been dyspareunia and for more than a year marital relations had been practically eliminated. The patient, immature and egocentric, had accepted the married state without any of its responsibilities, and for some time had been indifferent if not antagonistic to her husband. The gynecological examination disclosed no local cause for either the dyspareunia or the urinary symptoms; the urine showed no abnormal constituents.

In other cases where the marital situation is unsatisfactory there may not be such a frank expression of the dysharmony in the sexual sphere, the nervous invalidism may chiefly express itself in urinary complaints. A woman of twenty-eight, one year after marriage, felt a sudden pressure on the bladder with a desire to urinate. From this time on she complained of pain over the bladder, of frequent urination and the passage of large quantities of urine; the polyuria may have been due to her drinking a superfluous amount of water, as in many cases of polyuria in neurotic patients. As to the origin of the other urinary symptoms the patient stated that during the first year of married life sexual intercourse (*coitus interruptus*) would cause frequent urination lasting for a day or two, associated with a feeling of pressure on the bladder. Owing to these symptoms marital relations had been discontinued after the first year of married life; during the following four years the patient lived an invalid life, she made the usual medical pilgrimage, was operated on for retroversion of the uterus with no relief of the symptoms, underwent prolonged orthopedic treatment for a nonexistent tuberculosis of the spine. There was no gynecological condition to account

for the symptoms; the urine showed no abnormal constituents. The patient was extremely prudish, had married to get relief from drudgery in a mill, disliked sexual intercourse ("if he wants that, he can get somebody else"), resented the idea of having children.

For four years on the basis of her urinary symptoms she had gained immunity from marital relations. In this case the determination of the urinary symptoms, which were utilized for the evasion of marital responsibilities, was not a complex associative process, but the current development of urinary discomfort immediately following sexual relations. It is not impossible that in this case the patient derived a certain amount of satisfaction from urination, that this function was in her associated with unusual gratification as in the case of Ellis, and that it played a substitutive rôle of a positive nature as well as being utilized in her evasion of marital responsibilities.

The genesis of the urinary symptoms is less clear in the following case, where retention of urine developed in a setting similar to that of the previous case. The patient, a woman of thirty-four, had the same attitude towards the sexual life as the previous patient; she looked upon sexual intercourse as "the most demoralizing thing that ever happened," "if a home is peaceable that's enough without kissing and caressing"; she thought it degrading to have a large family.

After the sudden development of retention with no obvious cause the patient had to be catheterized by her physician twice daily for many months; various diagnoses were made, "stricture of the urethra," "tumor of the urethra," "ulcerated bladder," but competent gynecologists found no basis for these diagnoses, the local condition being normal. Treatment by drugs, electricity, and mechanical dilatation had been of no avail; it had, however, necessitated her absence from her husband, and thus been of advantage to her.

In this case, as in the previous one, the question may be raised in how far the urinary symptom itself was a source of direct satisfaction; in the case to be reported distension of the bladder was a source of agreeable feelings to the child. The rôle of the catheterization is also significant, for the utterances of the schizophrenic patient referred to above show the possible sexual meaning of this act.

From the cases thus summarily reported it is already apparent that in the adult psychoses and psychoneuroses urinary symptoms

may be of considerable importance, and their development a matter of interest; this interest leads one to scrutinize carefully anomalies of urinary behavior in childhood to see whether they may throw light on the problems of the adult. In view of the above considerations it seemed advisable to report in detail the following clinical history, which is an unusually convincing document.

The patient, Sally M., a girl of seven, was first seen in May, 1913; for four years she kept in touch with the dispensary. It was only after four years that in an interview she spontaneously gave the key to her behavior. During this period the child had been observed in frequent interviews; her actions and utterances had been noted; no attempt was made to place before her the physician's interpretation of her symptoms, nor to elicit from her confirmation of the interpretation.

From the point of view of treatment the aim was to give her at the hospital an atmosphere in which she could talk freely about anything of interest to her, no matter what the topic might be. This was considered to be very desirable in view of the strict repressive atmosphere of the home. The father, an extremely earnest man, took his religious beliefs so seriously that he would not ride on a trolley car on Sundays; he had been brought up in a Methodist community where the sexes at church were seated apart. He had been much distressed by the patient, when at the age of four she refused to say her prayers. He had conscientious objections to the patient being taught dancing. The mother was strictly conventional, she reproached herself on one occasion for not having whipped her two year old boy who had gleefully referred to hearing his sister in the toilet. In such an atmosphere a child can not easily ask questions about many topics in which interest is extreme, and the curiosity which is balked with regard to tabooed subjects frequently manifests itself in a less direct manner. Thus one of the most striking characteristics of the child was her insistent questioning, which was often without rhyme or reason. She would ask her mother about self-evident affairs, *e.g.*, "Am I still sitting at the table?" and in her visits to the hospital she was a peripatetic point of interrogation. She was brought for advice partly on account of this peculiarity, but also because she showed general nervousness, was jerky in her movements, and grimaced a little. The teacher had been struck by her odd behavior at school; she ran about the room, could not remember her place in class, staggered a little and seemed to limp

intentionally; she had, however, soon corrected her gait, her school work was good, many of her questions were those of a precocious child, *e.g.*, coming in to school she said: "My hands are very cold; if I rub them would that restore the circulation of the blood?" The following brief account of her development was gleaned from the mother's statements: In her early development she had been rather backward; an eight months' child, she began to walk at two, to talk at three years. As an infant she did not notice things until she was a year old; she clung to her bottle for an unusually long period (over two years of age), and then had to be fed, would not chew nor put anything in her mouth. She seldom played with anything, appeared to be very timid. When she began to talk at three, she began on sentences and "rattled right off." Her mother thought she had always been a great questioner. From a very early age her gait was said to have been peculiar. Bed-wetting was only occasional; she was very stubborn and wilful. She was nervous and peculiar in her actions and appearance, and during the past year had developed a marked twitching of the face, hands and fingers.

Physical examination (Harriet Lane Home) disclosed choreiform movements and a refractive disorder for which glasses were prescribed; slight anemia and malnutrition; tonsils slightly enlarged. Heart and lungs normal.

Standard intelligence tests could not be applied, as she would answer, "I don't want to think that." She was judged to be of normal intelligence.

In the second interview (June 4, 1913) the patient showed the same general characteristics as in the first interview. She was fidgety and inattentive, answered questions as if she were very stupid; she pretended that she did not know the nature of the building, nor the occupation of the physician. She referred to a relative, Cousin Ned, and said "Cousin Ned is 100." In this attitude of pretended stupidity we may perhaps see a sort of game, the patient amusing herself at the physician's expense, teasing him or coquetting with him.

The patient gave fragments of her dreams, but no associations to these fragments were obtained.

In one dream she was at Cousin Ned's place, Eleanor was there. The patient spent every summer at Cousin Ned's; there she played with Eleanor; and four years later the patient is to tell the physician spontaneously of the sexual games in which Eleanor, the patient

and her young brother joined in the country (vid. note June 9, 1917). Whether she and Eleanor had indulged in any such practices previous to the dream was not known.

The utterances of the patient were bizarre and it was not very easy to interpret their significance. For instance she referred to a mosquito having scared her; she said that the sound of the elevator was like a mosquito; "a mosquito climbs up on you," it sings on top of her mother.

In discussing Cousin Ned's place she referred to a young employee who imitated a dog and a cat; she liked to imitate animals; she did not like to walk the way she used to, "a calf walks that way." The peculiar gait at school may have been partly determined by her experiences in the country.

In this early interview her attitude to the questions of the physician was already interesting; "Mother, when you answer that doctor, do you answer him right? Must I answer him right, too?" We shall see later how interested she is in the physician and his methods, how she enjoys quibbling, how she seems to pique his interest, and how finally she asks him to take a much more intimate interest in her. In view of her questions about giving correct answers, she was asked "Who tells you not to tell?" She answered, "Martha" (a cousin in the suburbs whom she occasionally visits). These answers were already rather suggestive of concealment of some topics, and a coquetting with the question of becoming quite frank.

In the following interview (July 6) she soon broaches the topic of the rôle of the physician. "Are you going to ask me questions?" (Yes, will you tell me the truth?) "I ought to tell the truth; mother, let's hurry through." "Must I tell you? Must I tell you now? When we go home? Is mother listening?" Her mother leaves the room; Sally shows no change in her general attitude, and does not talk any more freely than in her mother's presence. She tells of several playmates; refers to James (12), Susie (8), and Martha (8), whom she had already referred to in the last interview as having told her not to tell (what?). They played together in a daisy field; James and Susie played "chicken." "I and Martha watch them. Must I tell everything?" (This hesitation suggests that there is something forbidden in these games; perhaps it is this that Martha has forbidden her to tell.)

During the interview the patient was fidgety and mischievous, ran around the room in a helter-skelter way, regardless of the

presence of any one. She paid no heed to her mother. Although her mother insisted that the child did not know anything, the latter had a very "knowing" appearance and appeared to be extremely "wise."

During this period the patient had been very stubborn at school, she would not repeat seven or seventeen; she had been punished on three occasions.

At the next visit to the dispensary (June 13), on entering the room she said: "Am I going to tell you something?" She behaved in the same wilful way as usual; she said that she wanted to learn how to make baskets, having seen other patients doing this. In reference to the topic of the last interview, the games played with the other children, she said, "Am I going to tell you how Martha played chicken?" "She played naughty, she played with James."

The patient was next seen in November; she seemed to have better muscular control. She still showed the same tendency to ask questions, but not so incessantly.

In the next interview (Jan. 17, 1914) the patient showed distinctly coquettish behavior; some of her utterances were difficult to explain. She harped on getting fat; "Sam (brother) is fat"; she asked the physician to make her "fat by telephone"; "doctors make girls fat." It was impossible to mistake the coquetry in her behavior; she sent the others (the social service worker and a physician) out of the room and shut the door, then asked her own physician to attend to her. Later when the physician talked to a colleague who came in, the patient ran out, only came back under protest and then ran out again. She wanted the physician to find how heavy she was, asked him to lift her up: "Martha has been made fat—by telephone." This proposal to the physician is an early indication of the same trend which later becomes much clearer when she asks the physician to examine her down below, in order that she may have sexual satisfaction (June 9, 1917). During the interviews of the following three years this topic recurs again and again; she wishes the physician to make a physical examination, she does not wish his rôle to be confined to questioning. Some of her rather impatient sparring with the physician's questions may indicate her dissatisfaction with his failure to play the rôle she wants him to play. It is interesting to note that this is her conception of the physician's rôle; she conceives his relation with his patients to be very intimate.

A few weeks later the patient spent one week in the hospital for observation. On the road there she asked her companion, "Will I get fat at the hospital?" The recurrence of this topic suggests some important determinant; it may be in relationship to childish ruminations about pregnancy. In an interview at supper time she told the physician to go away, said she was scared of him; she took her supper in a very untidy way, let custard fall on the floor, laughed raucously. She exposed herself as she leaned far over the bed in an apparently meaningless way (exhibitionism). She said the physician was a "gobbler" because he said "gobble" to her in the "other Hopkins" (dispensary); no basis for this statement could be found. Two weeks later, when questioned about her sleeplessness, the patient said that she did not try to go to sleep, that she tried to keep awake.

In an interview in June, with the other physicians present, she was silent. She then lay on the lounge with her legs in the air (exhibitionism). During the first half of 1914 she made monthly visits to the dispensary and was allowed to play about with the toys there; frequently no special interview was given, as the aim was to let her feel at home in the medical environment, to study her reactions and to discuss any problems she cared to bring up. Her play was as a rule ungainly and very crude; her attitude was extremely variable. No notes were made of several of these visits, but it was about this time that she asked the physician about urination; she wanted to know where the water came from and was told that it came from the bladder; she asked how it got into the bladder and was told that it came from the kidney. The importance of this topic to the patient will later become clear. During the spring her school record was excellent; her teacher found her quiet and attentive; she was much less excitable than during the winter. In the summer she spent a week at a children's camp; there she was at first excited and overactive, but soon settled down.

On January 15, 1915, she was again seen at the dispensary. On the road to the hospital with the social service worker she recalled innumerable incidents and conversations of the previous winter. When seen in the dispensary her behavior as she played around and during the interview showed decided improvement; she was less boisterous, there was less general restlessness; she had an occasional barking cough and there was considerable grimacing.

She asked superfluous questions as in previous interviews and

in the following notes one sees a tendency to coquet and to spar with the physician. "Is this Phipps (of course she knows this)? Is this nice play (she is at the sand pile)? You won't call me to talk to you, will you? ("Not if you don't want to.") I mightn't want to. ("Why?") Because this is nice fun—where do you get the ink from? (The mechanism of the fountain pen is explained.) And does it come down every time you need it? Suppose the ink goes all out of it. . . . ("How old are you?") Two. (She persists in this.) ("And Sam?") Two—we were born together." Her brother Sam is really four years old. ("Children don't go to school at two.") "Well, they ought to. . . ."

When told that in previous interviews she had asked many questions, she said, "I don't remember."

She stated that she did not sleep well, that she played with her fingers all night to make horses out of them. These references to sleeplessness are of interest in view of a previous statement that she tried to keep awake at night, and of a later statement about lying awake till midnight and hearing something, and in view of the rôle played by her urinary symptoms at night.

One day Sally asked the social service worker if they killed babies at the hospital. ("Why? No!") "Well, someone says that is where babies are born and where they kill them and don't they kill them for crying and making a lot of noise?" It is possible that in these remarks Sally is very guardedly approaching the topic of childbirth.

As will be mentioned again the child seemed to be fascinated by water; reference has already been made to her questions about urine and its source, the exact date of which was not noted. That this was a topic of enormous interest to the child, and apparently a problem over which she ruminated continuously, was shown in an interview on June 19, 1915. She had come to the dispensary after an absence of several months; after coming into the consulting room she shut the door (a point she had insisted on in previous interviews), and then abruptly pounced upon the physician with the question: "Where does the water come from into the kidneys? ("The blood.") I've never seen any water in the blood. ("You've seen blood.") I've never seen my bladder; my bladder isn't liquid, is it? Can you tell me all about that? Can I lay on the couch while I talk? (In previous interviews she had occasionally lain on the couch and had shown a tendency to expose herself.) Are

we going to have a talk? (A somewhat coquettish remark, and perhaps with a reference to the fact that the physician's examination consisted merely in talking, while later interviews show that she would prefer a physical examination.) What is the screen for? ("For undressing.") Somebody might undress that somebody might see the bladder? (In this remark it becomes quite clear that in her mind the medical situation is associated with sexual possibilities, and that the sexual is represented by the urinary system.) Will you answer all the questions I ask? What is that pipe for (pointing to waste pipe of washstand basin)? ("It is to remove waste water.") When I drink, I don't feel water going into my blood. How do things go down by nature (Is she comparing the water pipe of the basin with human anatomy)? ("Where?") In your blood."

She fingered her wrist and said: "Is this a wall like this (tapping wall of room)? What are the walls of your body? (She says that her father had referred to the body walls.) If I get sick right here, will you do something to cure me?" This suggestion recurs in the interview: She asks what would happen if the elevator fell; if she broke her arm, would the doctor have to care for her? She stands on the couch reaching over as if about to fall, and thus necessitate the attention referred to. If something happen to her in the hospital, the physician will have to make a physical examination. This is the early foreshadowing of the trend which becomes so explicit later in her crude sexual proposals (June 9, 1917), when she says, "I would like you to examine me behind . . . because if you touch the tube (*i.e.*, *genitalia*) it's nice." She harps on this topic: "If I get sick right here, will you do something to cure me? ("How?") Maybe take my temperature, put a thermometer in my mouth. Then are you going to examine me?" ("How do you think?") She refers to examination of foot or head, of head and hands, of the pulse and the color of fingers.

"Are you taking notes to talk over when I come back? Shall we talk more?" The following is an example of her bizarre questions: "Suppose mother cut a chicken's legs off, why would it break the bone?" During a ride in the elevator she was much interested in the mechanism, and lay on the floor; when told it was filthy and would soil her dress, she asked what filthy meant.

The patient was not seen for several months; at the next visit at

which notes were made (Jan. 14, 1916) she was less jerky in her movements than before, but her conduct was still rather boisterous. Her questioning trend was still prominent. She touched familiar objects, said "What is this?" (*e.g.*, the feathers in a toy duck), "Why do ducks have tails?"

She showed her old trick of sparring verbally with the physician especially when a third person was present. ("How are you getting along at school?") "Why do you want to know? ("I am interested in your development.") You can't develop in school. ("Why?") Because you can't develop in school." She hops round the room, throws the duck around rather aimlessly.

("How are you getting along at school?") "I don't know." She gives the same answer to a number of questions. ("How is Sam?") "You don't know my brother's name (Sam). ("How old are you?") You know." This was her behavior when a colleague was in the room. On the following day (date of this note is somewhat uncertain) she asks the physician if he will talk to her later; he assents. Later, when in the room, she runs at once to shut the door (this she had frequently done before; *cf.* January 17, 1914). ("How are you at school and at home?") "I don't know—you don't want to know how well I am sleeping—sometimes something keeps me awake—you don't want to know what keeps me awake—you don't want to know now, do you? (These remarks would suggest an effort to pique the curiosity of the physician and as if her being awake had some special significance for her; *cf.* her obscure spontaneous remark, January 15, 1915, about being sleepless and playing with her fingers to make horses out of them.) On the 31st of December the whistles kept me awake—you don't want to know if I'm best at school—listen—is there a whole lot of ink—the ink that comes down when you need it? How does it know when you need it?" This interest in the pen, a tube containing ink, may have the same origin as her interest in all waterworks, in the waste pipe of the washstand basin, in the flush of the toilet, an interest apparently derived from her intense interest in her own urinary system the meaning of which will later become quite explicit.

The patient on coming into the consultation room had at once run to shut the door; she said, "Are you going to have a little talk with me—as soon as you get done writing?"

When asked about her sleep and dreams she said: "You don't want to know—what do you want to know what I dream for—

have you been upstairs to see your class (correct)? Did you go up in the elevator? . . . Are you through asking me? Do you know what I want to ask you?" ("Why did you shut the door?") "So people won't hear me talking. ("What difference does that make?") A lot of difference—every time I give a report of my school to mother she asks me to her room so that Sam can't see me—Sam might see me get punished—Sam oughtn't to see me give a report of my lessons." The situation in the consultation room calls up in association the picture of her being punished by her mother, while her brother is not allowed to be present (because she is exposed during punishment; in the consultation room the tendency to exhibitionism has been noted and will later be more definite).

The patient said that at night she had to get up to pass water, more than once; this keeps her from sleeping. ("And in the day time?") "Of course I couldn't go all day without passing water." ("Do you hesitate to pass water?") "Why hesitate?"

As a matter of fact Sally's habits with regard to urination were very striking. Her mother said that in the day time she would protest against passing water, and would sometimes wait until almost bent double. Her mother interpreted this as meaning "she doesn't want to take time to go," while the sexual significance of it was later spontaneously admitted by the patient. Occasionally she would wait so long that she would wet herself before getting to the toilet; she would then not tell her mother that she had wet herself. This would happen about once a week; her mother would see her sitting wriggling on a chair, and finally the patient would be unable to retain the urine. Three months previously she had urinated on her father's lap a few minutes after her father had asked her if she did not want to go to the toilet.

At this time (January 22, 1916) the patient's general behavior and disposition were reviewed with the mother. Sally had since Christmas been "awful"; her mother had been unable to force or coax her to do anything. Two whippings for poor school work had provoked no reaction, caused no tears.

As to food Sally was very capricious, and could not be made to eat dishes for which she did not care; the mother, however, was not very strict in this respect—"if a child doesn't want a thing, I don't make them eat it." Sally was irregular in her visits to the toilet, and would at times become constipated and receive medicine; it

may be questioned whether the so-called constipation was not a more or less deliberate retention of feces, associated with pleasurable feelings, similar to those which fostered the deliberate retention of urine.

The child's marked curiosity about her own urinary apparatus, about plumbing arrangements in general and about the mechanism of a fountain pen has already been noted. The mother (March, 1914) said, "the child is crazy about running water. She turns the tap a dozen times a day and would keep it going for hours if I let her."

On one occasion (1913) the teacher had been called on to rescue the patient who was trying to get down the sewer; Sally's explanation was that she wanted to see what was in the sewer. A long time after this incident, one rainy day when torrents were pouring along the gutters and down the sewers, she remarked "water can go down the sewers, but little girls can't." One day at the dispensary (March, 1914), when using the toilet, she said to the social worker, "Cannot anyone tell me where the water goes? Does it go 999 miles into the earth?"

The mother said that Sally took no special care as to who saw her exposed; she was also scandalized at the child's habit of lying on the floor and kicking up her legs, "it is not nice and, if I do not correct her now, she may do something worse when she is big." The mother intuitively felt that the behavior was more than the healthy exuberance of a child, was the early indication of a rather dangerous trend; at the hospital the tendency to exhibitionism was noticed on many occasions.

At home and at school Sally's behavior was erratic and somewhat turbulent; she defied her mother and would not yield to punishment. She would put her sweater on the top of her raincoat; she would grab a boy's hat and wear it at any angle. When given a note by the teacher to take home she had torn it up, leaving some in the teacher's desk and the rest on the floor.

Her teacher considered her quite intelligent, but very erratic; she attributed her queer behavior to "pure mischief, not ignorance." At ten years of age she was in the third grade; she would not coöperate in the Binet-Simon intelligence tests.

In a visit to the dispensary on February 19, 1916, Sally behaved in a rather typical way. She would not take intelligence tests seriously, answered in a flippant or evasive manner. In a prank (or

was it on the chance of receiving some injury necessitating a physical examination?) she fell down two or three times on the floor, then left the room. She hid in another room, asked the physician to find her, was found on a couch; she burst out laughing raucously, kicked up her legs, said she was kicking like a steam engine.

She kept on kicking and laughing for some time, talked in a rather unintelligible way, finally ran out of the room. In this scene the behavior of the patient could hardly be interpreted otherwise than as coquettish in a crude and precocious way.

During the next month the report from school was one of odd behavior; she would gallop around the class, laugh raucously, throw down her books, play with saliva in her hands. When in a store she asked the woman innumerable questions, *e.g.*, whether she had children, why she didn't get some. The patient had previously not expressed any overt curiosity as to the origin of children. Questions as to the origin of children had indeed been strikingly absent from the patient's repertoire; her mother remembered that Sally had recently asked where her little brother Sam was before he was born.

April 29, 1916, Sally works at the sand pile, taking pleasure in making it very wet and splashing the mixture about. She does not care to be interviewed, says she doesn't want to be asked questions, doesn't care to talk (coy?).

May 18, 1916, her behavior is similar to that of the last visit; she dabbles with sand, does not want to go to be interviewed, "you may speak too long."

In June the school report was that Sally was not doing very well, and would not be promoted from the fourth grade. She was considered to be a great detriment to the class. The boys were apt to tease her, and she would become very ugly. The teacher described her as immodest and said that she masturbated sometimes.

During the three years of contact with the hospital, and notwithstanding the fact that Sally was on familiar terms with the social service worker and the physician, she had given few direct intimations as to the underlying conflicts in her nature. Her symptoms seemed to be the disguised expression of important instinctive forces under the influence of an unusually repressive home atmosphere. At the hospital the endeavor was made to give the child a freer atmosphere, in which she could discuss any personal difficulties. Her obsessive questioning on every possible subject seemed to be

the expression of an insatiable curiosity, which did not have a direct outlet; the questions about the urinary apparatus and her fascination with all analogous waterworks seemed to cover some more fundamental interest, probably interest in sex matters. Her exhibitionism, her somewhat coquettish behavior, her verbal sparring, were all in line with this interpretation. Her peculiar disinclination to pass urine with occasional incontinence was also suspected of being closely related to repressed sexual trends.

But though these interpretations were easy, Sally had said little to confirm them; no attempt had been made by direct questioning to get her to discuss any special topics. This was the situation when after a year's absence the patient was again seen at the dispensary. In this interview (June 9, 1917) the patient spontaneously revealed all the underlying factors and threw a flood of light on the mechanism of the disorder. Such a direct and spontaneous explanation is a document of the first importance; it demonstrates in an absolutely convincing way the fact that at an early age symptoms, which are apt to be looked on as the expression of some general neurotic instability, may be due to the very specific but disguised working of the sexual instinct. It demonstrates clearly the close connection between urinary symptoms and the sexual instinct.

During the interview the patient talked very freely; the physician had some difficulty in taking down her rapid and jerky utterances; he put occasional questions to get a clearer or fuller statement from the patient.

On the road to the hospital Sally had suggested to the social worker who brought her, to tell the physician that she was dead; this might perhaps indicate slight pique at not having been brought to the hospital for such a long period, it might also have a deeper determinant; for in the interview she tells of her brother taking sexual liberties with her when she pretended that she was dead.

At first the patient plays at the sand pile, then comes to the consultation room and washes her hands; then sits down. She asks the physician if he is a "medical doctor"; this question probably touches the old topic which had always interested her so much, viz., whether the physician merely asked questions or whether he would not also make a physical examination; the sexual nature of this interest is later expressed in unmistakable terms. Her next question shows that the engrossing topic of the interview of June 19, 1915, is still in her mind; quite abruptly and irrelevantly she says: "If I

were to ask about the bladder and kidneys would you tell me? What happens when you have cold in the kidneys, and the water comes so much, every three seconds? Why are you taking notes? You're not going to send that home to mother?" ("Have you to go to the toilet very often?") "Sometimes I have to go every one second (jesting?) at night I had to get up twice, the first time I vomited, sometimes I get up once, feel for the chamber, can't find it, mother won't make a light, then I have to go to the bathroom sometimes I used to wet the bed. . . ."

("Do you drink much at night?") "Yes, that's one thing that makes me go to the bathroom—I drink eight gallons of water at night—don't you?—how much are you supposed to drink? One night last summer I had watermelon, I wet the bed that night." The fact that the patient drinks much at night would suggest the encouragement of a full bladder and bed-wetting rather than the opposite. She claims that she has not wet the bed for the last year: "In the day time when I haven't a cold in my kidneys, I just go once a day (the sexual basis of this retention is made clear later in the interview). I go more at night time than I do in the day." Apparently quite irrelevantly, but with the suggestion of a repressed associative link of sexual nature, she says: "Once a long time ago, mother put me to bed about seven; about twelve I was still awake." ("What happened?") "I thought I heard them (she passes quickly by the topic; does she refer to her having been aware of sexual relations?). I dreamt that some one was going to take me and throw me down the elevator pit. . . ."

Returning to the topic of urination, she says: "I have taken five cups and then was full to the neck every time I take water I do it. My mother says I'll be sorry when I get older. I do it just for fun (her first frank admission of pleasure gained from the urinary system). ("Why?") It's fun—it makes so much come out of the toilet (an evasive explanation, which perhaps she does not mean to be taken too seriously). You say the water comes from the blood (information given to Sally in the interview of June 19, 1915), and goes into the kidney and into the bladder—where does it go then?" She is now approaching the real center of her intense interest in the whole urinary system, and is indirectly, perhaps coquettishly, leading the physician to discuss the sexual apparatus. ("It goes into the toilet.") "And where then? ("To the sea.") And where then? ("To the clouds.") And then? ("It comes

down in rain.") What! My toilet water? ("You drink to have the fun of water coming out?") Yes—in order to have more water in the sea so that bigger boats can float." She darts out this somewhat sarcastic response very rapidly, and it is a good measure of her alertness; she thus for the second time gives an evasive answer to the question of what pleasure she derives from urination. "Sometimes I get in a hurry, wet my drawers—that's the fun of it. . . . I like to make water. ("Why?") To let mother know I have a cold in my kidneys" (again an evasive answer, sparring with the physician).

She asks more than once about the notes which the physician is taking, she asks about the couch, makes references to examination; she more or less duplicates the interview of two years ago (June 19, 1915). After asking what the couch is for, Sally comments on the screen, "the screen is so you won't be seen if naked; I would peep round the screen (*i.e.*, to see the patient naked). ("Do you want to see people naked?") I like to see Sam (brother)—between the legs, he has a long tube, I have a short one. . . ." She asks whether if she were sick, the doctor would examine her; the sexual context of this question throws light on all her queries of the past three years as to whether the physician would examine her. The underlying sexual motive of these questions, although suspected at the time, has not been beyond doubt. She says she would like it (*i.e.*, to be examined). If something were wrong what would he do down there?

At this point in the examination, or somewhat later, she says: "I would like you to examine me there, and behind (partly exposing herself), because if you touch the tube (the localization of the erotic sensations associated with urination), it's nice . . . it's nice when I'm wiping myself. . . ."

She admits that she touches herself every day (masturbation). "I touch myself every day now down at the tube."

She says that wetting herself is nice, because in urinating "the tube touches me there" (pointing to the thigh). "Do you go to the toilet when you need to, or just when you're told (she has frequently been inquisitive about the physician)? . . . I only go when I'm told . . . it feels nice behind when I wipe myself, sometimes I have to squeeze the dirt out, it's nice also in front . . . if somebody was naked (on the sofa) I'd peep—I'd like to see . . . if I was sick, would you examine me?"

The erotic feelings associated with the condition of the bladder are also expressed by the patient in terms which one meets so often in the psychoses as the disguised expression of sexual feelings: "One day when I was trying to get down my clothes, I had to dance around . . . it looked as though I were trying to get away from the shock of the current—the electric current coming out of the batteries . . . when I'm in a hurry I've to dance around while unfastening my drawers, it's as if I were trying to get away from something—shock of a current. . . ."

The patient not only admits frankly the sexual pleasure she gets from her urinary behavior, she talks about various sexual games she has indulged in. She tells of having had pleasure in looking at her brother's genitalia. "Once Sam was trying to give me a bath and he washed my bottom." After her weekly bath instead of going downstairs, as her mother expects, she waits and fools (sexually) with Sam. Sometimes in her hurry to urinate, she does so in the water, "I like hot water." "I made out I was dead once, he (Sam) fooled with my bottom—he was trying to wake me up, he couldn't do it, so he unfastened my drawers, fooled with my bottom—"You liked it?"—yes."

The following account of sexual games may throw light on the "naughty" games referred to in the interview of June 7, 1913, in regard to which she had said, "must I tell everything?" She says now: "In the country Eleanor and Sam were fooling with my bottom, Eleanor at the back, Sam at the front . . . then I fooled with Sam's front, Eleanor with his back . . . Sam's front looks like he's laid an egg, sometimes I see the hole in his pipe where the water comes out . . . we do this every time we go down to the country." While talking about this the patient is rolling about the sofa, partly exposing herself.

Nothing requires to be added to the clinical history, which gives a striking example of the complicated drama which may be staged in the child's mind. The conflicts which this child of poor nervous endowment found such difficulty in managing are due to instinctive forces which play a rôle in the development of everyone; and this experiment of nature may sensitize us to minor manifestations of similar conflicts in the life of the ordinary child.

In the light of this case it may be easier to understand other examples of aimless and obsessive questioning, of precocious intellectual research, of one-sided interests and fascinations, of indulgence

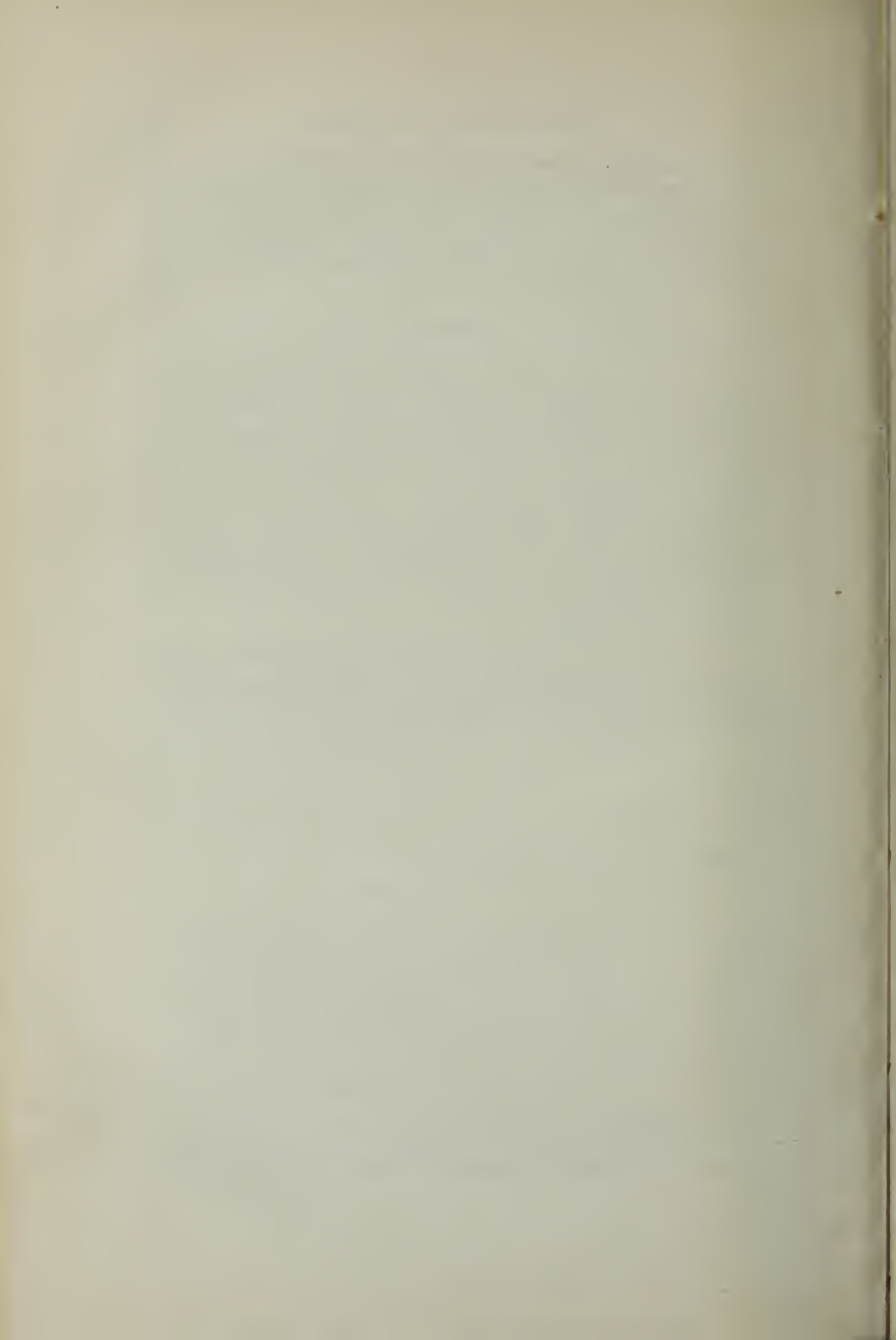
in special games, of special attitudes to the physician, of toying with danger and with chances of injury, of eccentric behavior, and of anomalies of urination and defecation; and the basis of similar symptoms in adult patients may sometimes be traced to an early period, to the complexity of which conventional psychology has failed to do justice.

SUMMARY

The clinical history of a girl, studied from the age of seven to the age of eleven, who showed obsessive questioning, intense interest in water and plumbing, a tendency to wet herself associated with deliberate retention, bizarre behavior apparently of coquettish nature, exhibitionism, a desire to use the medical situation for erotic purposes; the underlying sex interests and activities, were only directly admitted at the end of four years.

Reference is made to the varied setting of urinary symptoms in the adult psychoses and psychoneuroses, to the understanding of which symptoms the careful study of childhood material brings valuable contributions.⁶

⁶ For material very similar to that presented in this paper one may consult an article by J. Sadger, *Ueber Urethralerotik: Jahrb. f. psychoan. u. psychopath. Forschungen*, Vol. II, p. 409. Abstracted in *The Psychoanalytic Review*, Vol. V, No. 1 (January, 1918).



SOME THERAPEUTIC CONSIDERATIONS OF PERIODIC MENTAL DEPRESSIONS

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NEW YORK

The prognosis of cyclothymia or periodic mental depressions and excitements ranging in severity from the so-called neurasthenic types or simple mental retardation to the severest grade of manic-depressive psychosis, is well known to be poor. While recovery from individual attacks almost invariably occurs, making the disorder one of the most benign of the psychoses, the completeness of recovery in the interval period and the possibility of ridding the sufferer from interval symptoms as well as a recurrence of his disorder at some future time, is a problem which psychiatry has still to solve. Fairly obvious reasons why this should be so are in evidence, as shown in the inheritance and the makeup of such individuals. Practically our efforts to overcome these defects in the past have been confined to laying down simple rules in mental hygiene for the individual depressant and warning him especially from the life stresses and conflicts frankly shown to have been precipitating factors in the specific attacks from which he may already have suffered.

For instance, in a cursory review of the literature upon prevention of attacks in periodic depressants, the record is especially barren. The subject is closely bound up with the general rules laid down as prophylactic measures for all individuals with hereditary taint of psychotic reactions. Here the prevention concerns broad rules of avoiding harmful factors which may be social, pedagogic, psychic, or somatic, principles fairly well known to all dealing with psychotic individuals. On account of the innate inability of many cyclothymics to really understand themselves, and furthermore because they are frequently impenetrable pessimists, Kraepelin has suggested the use of hypnotic procedures. He holds that under such a plan the patient may be thereby enlightened both as to the mental state and the causes which produced the condition. Then the physician may follow up such an advantage to further enlighten the patient.

In considering the quality of insight which recovered cases possess, Clark at the Kankakee Hospital found about ten per cent had no real degree of insight, which of course gives them necessarily a poor chance of nonrecurrences. Bianchi firmly believed recovered cases ought to make a prolonged stay in the asylum as such a procedure tended strongly to prevent recurrent attacks. He thought the line of treatment which recovers the individual cyclothymic if long continued after the attack, possessed the power to fortify the patient against recurrences—a view shared by many other intramural psychiatrists. Many, including Ring,¹ Storch,² Strohmayer,³ Clouston,⁴ Ziehen,⁵ Pilcz,⁶ Ballet,⁷ and Falret⁸ have used and advised different patterns of drugs and physiotherapy to ward off recurrences. Such plans on the whole seem to be directed toward suppressing an incipient attack and are probably too short sighted in clinical and psychological view of the essential disorder to be largely beneficial to the disease as a whole. For the most part all modern authors are content in portraying a system of bed rest, hydrotherapy, forced feeding and avoidance of all kinds of psychic and somatic insults for the attacks themselves and have little to offer in the way of purely psychic treatment as such for preventing recurrences or for making the interval periods of such individuals quite free from vestigial symptoms.

However valuable the therapeutic principles cited from the literature may have proven in the past, it is quite obvious that such lines of guidance are not yet greatly effective as the interval symptoms are almost invariably present and recurrences of depressions and manic attacks are the rule. A few workers in this special field of psychiatry have made an intensive study of the makeup of the periodic depressive to make clearer the individual problem. While Hoch, for instance, has shown that the periodic depressive or manic individual may have an obvious anamnestic record of having been from earliest life a depressive or "open" type of personality, it is not sufficiently obvious just what is at fault when an individual of this type develops the specific mental disorder. Such studies as this, however, as well as those upon the "shut-in" type of the precox and the egocentric one of the essential epileptic, are valuable and pave the way naturally to the more exact and precise analysis of the mechanism by which such psychotic reactions evolve. Such studies tend to make more patent the unconscious or real motives which dominate the periodic depressive in his episodic attack.

While it would be too good to be true to indicate the sequence of a special psychosis by the particular type of makeup of an individual, we may have some hope of moderately approximating this goal by using a quantitative and qualitative analysis of the makeup either in the mildest beginnings of such a mental disorder, during the frank attack, or in the free interval. To search most intently the unconscious forces activating the lives of the periodic depressant in this manner is, so far as I know, here undertaken by psycho-analytic methods for the first time with the purpose of seeing whether the interval symptoms and recurrence of the frank episodic attacks themselves may not be aborted or lessened or done away with altogether. One cannot doubt but that many analysts have already undertaken this work in a routine manner, but such data have not, so far as I am aware, been given out in a specific clinical report.

In order to make our thesis clearer it is necessary to restate the clinical groundwork upon which we are engaged, together with the hypothesis of the mechanism of periodic depressions as elaborated by Hoch, and finally to see how definitely our investigations bear out his hypothesis and note the outcome of an analytic therapy upon such material.

As is well known, the course of periodic mental depressions of the simple retardation type, as well as those designated as frank manic-depressive types, are marked by recurrences which may be separated by intervals of comparatively good mental health. There are not a few clinicians who maintain that any individual once afflicted by an attack is never quite free from vestigial symptoms or temperamental attitudes characteristic in such individual types of this psychosis (Stransky). However that may be, usually individuals once free from the specific episode of their mental disorder, are to most intents and purposes well, or at least capable of undertaking the ordinary affairs and obligations of their everyday existence. In a small per cent they pass directly from one phase of depression or excitement to another without any appreciable interval of so-called normal health.

Even though one or two attacks only occur in the life of the individual, the separate attacks are in no wise essentially different from those who have frequent attacks. It rarely happens, however, that all of many attacks in a single individual are of the same type. On the other hand, one patient during life may suffer from all possible forms, from simple neurasthenoid or hypomanic states

(mildest states of excitement) to profound depressions or even stupor. The first attack is usually a depressive one. This is especially true of women. Commonly the first distinct depressive attack runs a mild course and in about half of the cases it is followed immediately by a free interval. A first excitement attack is almost immediately followed by a free interval, seldom by a depressive episode. If the first attack is one of excitement, the majority of succeeding attacks will probably be those of excitement. The duration of individual attacks vary from a few days to several years, the usual duration being from six to twelve months. The free intervals vary considerably in length from a few weeks to many years and stand in no very definite relation to the severity of the previous individual attacks themselves. The intervals are apt to be longer at the beginning and shorter as the attacks recur until the intervals may disappear altogether, the attacks then merging more or less imperceptibly one into another. At the beginning the intervals are usually of one or more years' duration.

In women at the climateric the intervals tend to become shorter and lengthen out in later life. A few cases in which from the beginning the attacks succeed each other without marked free intervals, the type of the maximum of the crises is usually light, having little more than mild excitement or simple retardation. Sometimes after a long series of such recurring attacks there may appear a long free interval. Although as a rule during the interval the patients appear quite well, often reënter the family, employ themselves profitably or return to their professions, they are apt to show restraint, lack of independence, a tendency to moroseness, an undue susceptibility to fatigue, some sleeplessness or a diminished capacity to do close or painstaking work, or what is more common, a pettish or irritable mood follows. In addition to these latter temperamental peculiarities such individuals may and often do become more markedly egotistical, unstable, and excitable. They also may present in course of time marked emotional deterioration resulting in poorer social adaptations. Finally in some a weakening in logical thought and memory and a more or less failure in the will and judgment exists. Many patients during the interval fail to show a thorough appreciation of the nature of their disease. Nor do they recognize its serious portent or bearings upon their life activities nor upon the relatives and friends responsible for them. After the milder attacks they often admit they were excited and nervous, but most frequently

they attribute it to some fault in the family life or environment. Often in the intervals many patients suddenly develop short periods of moderate exhaustion, flightiness, irritability, and unusual activity. On the other hand they may be unnaturally apprehensive, suspicious, despondent, inactive and indifferent to their various life duties. These transient symptoms of their disorder usually disappear abruptly and in another individual might not be counted as essentially morbid. It is very difficult to distinguish between the mildest forms of cyclothymia and certain morbid peculiarities of the personality. The latter are not infrequent in individuals with a more or less regular vacillation of the emotional life. The depressive periods of ill humor, the impetuous exhilarations are often mistaken for simple whims. They are ascribed to all sorts of deleterious influences, exogenous as well as endogenous. Physicians who believe in the so-called uric acid diathesis, endocrinism, and autointoxication often encourage such patients to look upon their disorder as a purely somatic one. From time immemorial such individuals have been designated as hysterics, neurasthenics, or hypochondriacs since it is only in the depressive states that the patients are brought to the physician's notice or are even considered ill. The patients themselves among the more intelligent class often correctly surmise the nature of their malady and dread its periodic approach. In the milder depressive types the simple lack of decision is often so characteristic that it suffices for the patient as well as the physician to recognize the real nature of the disorder.

As is very well known, these borderline cases are very numerous, and form a large part of the sanatorium population.* We are here mainly concerned with the therapeutic attempt to see wherein we may possibly modify in future the present well known unfavorable view of the prognosis of the disorder, especially as regards the certainty of recurrent attacks throughout the life of the individual. Probably all clinicians admit that in the small per cent of those individuals who pass directly from one attack to another, alternating or continuous, the prognosis is invariably poor. Unfortunately even in the great majority of patients who suffer from this disorder, many psychiatrists have taken such a gloomy view of the prognosis

*For the more minute and complete differentiation from the numerous neuroses and psychoses frequently confounded with this special mental disorder, the physician may be referred to the well known textbooks of formal and descriptive psychiatry, White's "Outlines of Psychiatry" particularly.

that too little effort has been expended in trying to modify this opinion. The task is doubly difficult, first, because the frequency of subsequent attacks and the duration of the free interval is wholly uncertain. We still have no means of judging just what the future course of the individual case will be. It is usually held, however, that it is safe to predict frequent recurrence of attacks with short intervals where the psychosis manifests itself early and without external cause. If, however, the first attack appears late and follows some external cause, such as childbirth, there will probably be but few attacks. If the disorder appears previous to the period of involution one may expect a recurrence during the climacteric. While in formal psychiatry the descriptive phases of the disorder by Kraepelin, Ziehen and others leave nothing wanting in the clinical delineation of the disorder, we have no clear analysis of the essential mental mechanism of the induction of attacks either of the manic or the depressive episodes, although the work of Hoch, Kirby, and Campbell are noteworthy in this respect. One is bound to agree that in time, after numerous attacks of either or both phases of the disorder, there are often important alterations in the emotional lives of such individuals. The statement is made in face of the fact that such authorities as Kraepelin state that mental deterioration occurs in only a few cases where the attacks appear during the period of development and are long, frequent, and severe. It is held that in the free intervals even these patients are considered well oriented and retain a good memory. So much for the purely intellectual faculties; but it is freely conceded that many such cases show deterioration in habit and conduct, such as indifference, irritability, increased susceptibility to alcohol, and deficiencies in judgment. Such may become in time more unstable in daily attitude toward life, freakish, often becoming schemers or incapable of any consistent and productive employment. In this cursory review of the best modern clinical sense regarding the course and prognosis of periodic mental depressions, while the episodic manifestations themselves are considered benign, the ultimate course and prognosis of the disorder as a whole is gloomy in the extreme. Several points of attack for bettering the prognosis are open to us.

It is the general opinion that early sanatorium treatment makes for a speedier and more enduring recovery from individual attacks. While this undoubtedly holds true for the frank disorder, perhaps the great majority of individuals suffering from periodic

depressions (a term we shall employ to characterize the milder types of the manic-depressive disorder) either in the initial attacks or in a series of attacks are capable of being successfully treated in private practice. This being the case, the physician is most frequently called upon to recognize the true nature of those protean forms and treat such individuals accordingly. Obviously the majority of cases occurring in such practice are of the depressive type as the individual suffering from the alternating stage of extra well being or hypomanic condition does not submit himself for treatment; or either does not consider himself as ill, or if so, the state is not sufficiently unpleasant to drive him to the physician for aid. As before stated, when the periodic depressive consults the physician, most frequently it is to gain relief from the numerous physical symptoms and only incidentally from the mental symptoms. The case, however, does not remain under observation for long before one is usually made aware that the real seriousness of the disorder is in the mental realm and that, too, in the emotional field of the patient's activities. A careful analysis of the early life of such patients usually discloses a definite abnormal individual, family or social adjustments owing largely to inherent or congenital defects of the instinctive life. Especially is this true in the home life of such individuals when called upon to make the social adjustments at puberty, adolescence, or the later adult life.

In order that some of the lines of therapeutic study here given may be fully understood, it is necessary to recapitulate some of the more recent studies made upon periodic depressions.⁹ These deal with that part of Freudian psychology which concerns *unconscious motives*. For some time antedating Freud's work it was known that in so-called post-hypnotic suggestion it was possible to experimentally create motives for action, and that the latter could be carried out without the motive itself entering consciousness. It remained for Freud, however, to reveal to us a new world of such unconscious motives of which we had previously been comparatively unaware. He insisted that these motives of earliest life did not disappear from the individual's life but underwent a further development. From the very nature of their further development the original form of their existence ceased to be a reality to the normal adult consciousness. Freud found on analysis one of the great unconscious motives of the strivings of earliest life was a tendency for a strong attachment of a child to the parent, and particularly a great love for the parent of the

opposite sex. One recognizes at once the possible rôle that such a love attachment might play in the development of the adult love-instinct. But adult love contains sensual elements which are not present in the child, and can, therefore, play no part in that tender feeling toward the parent. However, as puberty approaches, these sensual elements appear. It has been shown that the great task of puberty is to dissolve the bonds of the home tie and to transfer a part of the affections shown previously for the parent to new objects in the service of the instinct of propagation. This puberty-process, for some as yet unknown reason, is not possible to every individual, and the assumption is made that in such instances the trend of the sensual impulse then flows in the direction of the tender feeling formerly felt for the parent. But the conscious personality strongly opposes this process, hence this sexually intensified part of the attachment for the parent remains repressed and unconscious. One may say, therefore, that in the course of adult development certain normal steps remain undeveloped, or are arrested. Hence this defect of undeveloped instinctive desires—which later are the very core of the personality—results in a defective adaptation especially in the sexual sphere, and, as has been carefully pointed out, when one states there is a sexual cause in every neurosis it does not necessarily imply a sexual cause in the adult sense, but in the sense that the cause lies in the imperfect development of the instinct. It has been shown that the unconscious has different depths, as it were, and that the infantile motives just mentioned are undoubtedly among the deepest repressed strivings. But in order to understand these infantile motives aright one needs to free himself from the ordinary adult logical way of thinking and meet the situation on the infantile level. Not a few persons, and even physicians, knowing that Freud has spoken of sexual causes and the child's longing for the parent, have simply combined or translated this into terms of adult sexuality. This is probably wrong, because adult sexuality has many qualities added at puberty which have no such formulation in the infantile life. Often the ideas of desire, expressed in the depressive psychosis in particular, are much more vague. They not infrequently express a mere desire of possession of some sort. This is well shown in the so-called benign psychoses wherein the longing is often expressed as a wish to die with the father or the wish for removal of the mother. "For instance, a woman may become neurotic when she becomes engaged. After marriage she refuses to submit to the marriage relations and

then develops a psychosis in which the ideas expressed are essentially that her marriage is annulled, her mother is dead, and that she herself is following her father into his grave and is united with him in his coffin. In other words, it may be inferred in such a case that the woman was unable to adapt herself to her married life and therefore regressed to a union with the father. It can readily be seen that this psychotic setting is not sexual in the adult sense, though it is an evidence of imperfect adaptation of the sexual life."

"There still remains another important point, namely, the thoroughly illogical nature of the above example. On logical grounds it is absurd to wish—and we regard the delusions as expressions of unconscious wishes—that the mother should die, when all that is desired is to be united with the father in death. But the psychosis does not think logically, but autistically, as Bleuler has expressed it. The wish for the mother's death or removal exists, because to the child she is the rival in the affections of the father. We must not forget that the ideas expressed in psychoses are often, so far as we know, direct emanations of unconscious desires which cannot be understood by the observer or the patient when standards of logical thinking are applied to them. And, when we try to cast them into logical or adult form, we are doing something which is, strictly speaking, not possible, and the formulation is apt to become onesided and artificial. To recognize this is important. The vagueness of these trends is not due to our imperfect knowledge of them so much as to their very nature, and we are not improving matters if we attempt to make them clearer than they really are."

"It has been said that the infantile motives, upon which Freud lays so much stress, have been revealed by a method which is questionable, owing to the great latitude given in it to interpretation. But in studying the psychoses we find exactly the same motives as those which Freud has inferred, and here very often no complicated interpretation is needed, since the unconscious desires are expressed directly in the ideas of the patient. This is what should make the central claims of psychoanalysis so convincing to the psychiatrist. Freudian psychology, however, can be understood only when the dynamic importance of the deepest infantile motives is fully grasped, and this is a side on which even much of the psychoanalytic literature does not lay adequate stress, since it emphasizes more the method and the motives which are more closely related to our adult way of

thinking. The psychoses, more than anything else, impress us, however, with the importance of the infantile motives."

In this brief outline of unconscious motives we have the principal teachings of Freud, as elaborated and formulated by Hoch⁹ and applied to the mechanisms of the depressive episodes of the benign psychoses. From the foregoing it will be seen that after the formal and descriptive analysis of the individual case history of a periodic depressive is gone over, the therapeutic inquiry should undertake to make patent and clear to the patient the logical sequences of defective emotional adaptation which his individual life discloses. The next step is to bring into consciousness as far as possible a more complete rationalization of the life activities which were possible at the periods of defective adjustments. Lastly, one may undertake a more strictly psychoanalytic approach by dream analysis and association methods. The latter is not essentially different from that used in treating the neuroses, but the inquiry is undertaken with the greatest care as one is dealing with individuals abnormally sensitive and often greatly shocked and pained by the ruthless manifestations of the unconscious motives disclosed in the life analysis.

However, we are justified in going to considerable pains and effort to lead the patient to thoroughly understand his individual conflicts if the method of therapeutic inquiry may hold out a fair hope that by such an investigative treatment the patient may make a better life adjustment, thus possibly preventing recurrent attacks of the disorder.

Before giving an abstract of several cases which have been treated on the above hypothesis, it may be said that the well organized sanatoria or even state hospitals might very properly undertake a similar therapeutic procedure either during the course of the milder depressions or at the end of severe attacks before final discharge to the home is made. The defects of the individual case might also be properly imparted to the after-care social worker connected with the state hospital service in order that she may keep watch over the patient and in case called upon might profitably report to the psychiatrist. We may be sure that a wise and intelligent development and coöperation of physicians residing in and outside of the mental hospitals will not long neglect the conservation of the mental welfare of the periodic depressives which at present is so often neglected in the free intervals both by the physicians as well as by friends and relatives. It cannot be too definitely stated that the above analytic

treatment of the periodic depressives must always be carefully adjusted to the individual case both to the nature of the advices as well as the analysis itself. Often the not overintelligent patient must have the whole matter carefully and very simply explained. And above all the defects of their adjustments can only be of service to the patient when the individual himself comprehends wherein the fault really lies and makes its correction his own vital concern. The method cannot, of course, hope to be of great benefit in the very ignorant, the aged, or those possessing a rigid and fixed mental outlook on life. Even in such cases, however, the trained physician can often, from a simple anamnesis and most cursory survey of the individual's difficulties, use his knowledge of the portent of the defect encountered for a wise conscious guidance of the patient to his lasting advantage.

For the practical purpose of this paper an attempt at a fairly complete presentation of the individual cases is neither necessary nor practicable. It is hoped, however, that sufficient data is offered for one to recognize the clinical type of the disorder under treatment, the main mechanism of their evolution in the specific case, and the result of the analytical treatment as a prophylactic measure, both to improve the mental state of the free intervals, if the latter are to be counted only as intervals, as well as to show that this type of therapeutic inquiry may ambitiously help in rendering some individuals free from recurrences.*

CASE 1.—The first case studied was that of a married woman who had passed the climacteric and who had had two periodic depressive attacks yearly (simple retardation in type) since her twenty-fourth year. The attacks were characterized by insomnia, mental indecision, and a sense of unworthiness. The onset was usually gradual, the height of the attack being reached in about two weeks. At first the patient developed mental sluggishness. Next, the mental indecision was attended by an inability to speak or write or find words to express herself. Her head felt tired and she could not follow a line of consecutive thought or grasp the meaning of ordinary conversation. She finally talked little as she "had nothing to say." Associated with the mental retardation familiar facts could not be remembered. She remained thoroughly oriented throughout the attacks in spite of the slowness of apprehension and thought. Finally psychomotor retardation

* More detailed studies of Cases 2 and 3 may be found in my previous report, "Mechanism of Periodic Mental Depressions as Shown in Two Cases, and the Therapeutic Advantages of Such Studies," *Review of Neurol. and Psych.*, October, 1914.

became marked and she did little or nothing whole days at a time. All her simple everyday duties loomed before her as insurmountable tasks. She would then say life was useless for her and she had better be left to die. A large part of the time was spent in bed in spite of a persistent insomnia. At the depth of the attacks she had compulsive ideas that God did not exist and that there was no religious hope of immortality, which belief she had entertained all her life. She had full insight. The usual explanation of some unpleasant experience or a change from the country to the city she alleged as the common cause for the attacks. The episodes usually lasted from six weeks to three months. The recovery was gradual and there would be about three months of comparative well being, although many irritable and vacillating moods occurred in the interval periods.

Intensive analysis showed that the patient had a very close attachment to the home tie. The marriage was a cold and childless one and the marriage relations were especially unpleasant. It was possible to carry out but little actual psychoanalysis of the unconscious but sufficient was disclosed to show the main tenets of the foregoing hypothesis of the depressions were true and the patient quite realized it. Analysis was carried on through the greater part of one complete but fairly mild attack. Although this patient has been under report for the past seven years no subsequent attacks of depressions have occurred aside from a "slight flurry" of the old depression two years ago, which, however, consisted mainly of a few weeks of interval symptoms formerly regarded merely as "indispositions" of the free intervals. The patient has enlarged her social and community interests, her home life is contented and happy and she has a levelness of emotional "keel" never experienced before and for this she is extremely grateful. One might have expected that this patient was a little too old to show such a good readaptation, but she was remarkably plastic and intelligent for one of her position and station in life.

CASE 2.—This was the case of a middle-aged widowed woman with one grown son. She had just passed the climacteric. She had had several recurrent attacks of "neurasthenia" dating from the birth of her only son. The first attack at her son's birth was in fact that of a simple retardation attended by a refusal to eat, a sense of unworthiness, that she was to lose her mind and become dependent upon charity. She could not make mental decisions, wept a good deal without apparent cause and contemplated suicide and even made preparations for it which were frustrated. She did not care for her husband and could not bear to have her child near her. This depressive attack disappeared in two or three months, and ever since, a period of twenty-four years, she has had a short depressive episode every five or six months, sometimes as severe as the first attack, but usually a little less so.

Analysis showed an intensive home tie, especially to the father. Her engagement existed ten years before it was finally consummated in marriage. The marriage was cold and was followed by the first depressive episode at the birth of her son. After ordinary mental analysis had been given our patient submitted to a partial and modified psychoanalysis lasting over

a period of several weeks; since that time, four years ago, she has been entirely free from depression or even any vestigial symptoms supposed to persist even in interval periods. She is busily and profitably employed, has widened her social and community interest, and has a continuously hopeful outlook for the future.

CASE 3.—This is the case of an unmarried man of the middle thirties, who had attacks of simple mental retardation for thirteen years. During that time he had seven distinct and separate attacks occurring at irregular periods, the longest period between attacks being less than two years. The attacks in the main were as follows: He gradually grew quiet in manner, was disinclined to meet social obligations, sat about the house and worried in a mildly anxious manner that he was to lose his job in the city's employ or that other fellow workers were to be promoted above him. In a few days the real depression appeared; he lost his appetite, slept little, grew more restless and vague of purpose, could not make simple decisions and all physical acts were performed slowly. Finally his thought "came slowly" and he thought he was to go insane, was insane in fact, and he senselessly reiterated that he wished he might die, the psychic pain was so intense.

Analysis showed that our patient was intensely attached to the mother ideal, that his emotional makeup was very labile and infantile and that attempts at adult adaptations in assuming an independent position or employment or attempt at getting married were always attended by attacks of depression in which alcoholic indulgences and prostitutions played a certain rôle in his efforts to meet the adult demands. Psychoanalysis has resulted in the patient's avoidance of any future attacks of depression now over four years. The greater advantages obtained, however, have been in the improvement in his social and business conduct and the elimination of alcoholic indulgence. There is a marked history of periodic depression in the family; the mother herself died insane from exhaustion in a manic attack. Undoubtedly the conscious and foreconscious analyses and psychotherapeutic talks based upon these analyses were very helpful here, but similar efforts of this character by others before had not been productive of such good results as attended the same procedure here, plus a prolonged course of psychoanalysis which broadly covered the entire mental life of the patient. It is interesting to note that certain neurotic symptoms seemingly quite independent of the psychotic depressions were also swept away in the treatment of the main disorder for which the patient sought treatment. The whole therapeutic procedure seems to have resulted in a marked character alteration of our patient's underlying bad adaptive instincts.

CASE 4.—This is the case of a married woman who has passed the climacteric and who had her first attack of simple retardation (neurasthenia) at twenty years of age, brought about seemingly by her father's unkindness to her. She had always been very closely attached to her father. The attack lasted for several months and was characterized by headaches, indecision, motor and psychic retardation, insomnia and thoughts of suicide.

The marriage was cold and our patient had her first severe attack of depression at the death of her first child at three years of age. She always worried over this child "from the time it was born." The attack lasted for a year. Since that period she has had more or less severe attacks every year until two years ago, when the state of depression was more or less persistent, with fluctuations of intensity in the depressive symptoms from time to time. The analytic treatment was carried on for a year; it disclosed the dominance of the home tie as a child and especially the father attachment, the really loveless and stressful marriage, the inability to take on the added marriage bond of bearing children, and the final collapse of the effort in frequent "blue spells" and at last a more or less enduring depression. The results of the analysis are shown in the adaptation to home and community life, absence of vestigial symptoms of "blue spells," greater productive work, absence of irritability and fatigue, greater independence, and less sensitiveness and inactivity. She takes a continuous interest in her household affairs, which were formerly indifferently neglected for years. Too short a time has elapsed since the treatment was discontinued (about one year) for it to throw any light on the permanency of the free interval, the advantages of the analytic treatment being as yet confined to the absence of vestigial symptoms and freeing the patient for a natural healthy life.

CASE 5.—This is one of a woman now in the early twenties who has had classic manic and depressive episodes since her seventeenth year. There have been several such periods, the majority being manic and followed by depressions. The first "neurasthenic" attack followed an innocent love episode. On its being broken off she was slightly depressed, self-accusatory, insomnic, and had frightening dreams in which there was a reappearance of the father who died some five years previous. This episode soon passed in a month or so, to be followed by the first distinct manic attack after a serious love affair. In this, during the manic excitement, the patient thought there was an actual reappearance of the father. There was a typical flight of ideas, extreme motor restlessness, and a keen antagonism against the mother. In two months this state passed into a slight depression which gradually shaded out into the normal state in three months. The second attack began three days after the birth of her first child. She hoped "the child would be like her brother and father" who were dead. She did not care to see her husband, and when her child was brought to her at her earnest solicitation, under a seeming disguise of extra affection for it she really hurt it in handling it. The manic attack lasted two months and was followed by a short period of depression (six weeks).

The third attack was depressive. She would have nothing to do with her husband and child, read love stories constantly, and remained in bed the greater part of the time. She was insomnic, ate little, and neglected herself. The period lasted about six months and ended in gradual normal state with many vestigial symptoms of irritability, extra fatigue; she was

quarrelsome, moody, and assumed little independence of action. She remained fairly well for one year. The fourth attack was depressive. She disliked her husband and child and exalted her father's virtues in a contentious, querulous manner at the expense of her mother, husband and child. This depression lasted about six months. The fifth attack was a manic one, followed by a depression; both together lasted eight months. In this last period her brothers, mother, husband and child were all *unfriendly* and *distasteful to her*. Only the memory of her father was a "comfort" to her. She had imaginary lovers and hallucinated the return of her dead father and brother.

The analysis showed the intensive infantile attachment to the father and the mother antagonism, the latter openly expressed at three years of age. She encountered innumerable love episodes in early life which were all quite fantastic until her final engagement and marriage. The marriage was treated by her as an inconsequential love episode and a manic attack followed the birth of the child, to whose presence she remained unreconciled for two or three years. The analysis was undertaken at the beginning of the sixth depression, following a manic excitement and continued for six months. The results were shown in a complete readjustment to the mother, brothers, husband and child. The husband and mother report that "for the first time in ten years she has been perfectly normal without nervous and physical symptoms." She has assumed her social and household duties with content, and says, "Now I fully understand, and I have assumed all my adult duties and am quite serene and happy."

CASE 6.—The sixth case is that of an unmarried woman of middle life who for the last five years has had a circular type of mild depression and excitement, each lasting six months. The condition developed gradually out of the "natural" fluctuation of her mood for ten years before the definite and precise depressions and excitement which now constitutes her mental life. During the latter part of this five-year period of mental disorder while in a hypomanic state a type of paranoid ideas developed and she undertook analytic treatment as soon as the depression followed this period. The period of depression promptly ceased after the first month's treatment. In the ordinary course of previous attacks this change was not due for at least two months later. In the mild hypomanic state that succeeded this analyzed depression the paranoid trend did not reappear, nor was the excitement so intense as formerly. The patient was able to continue at her rather complicated intellectual and literary work and at the time when the hypomanic period might have been expected to have appeared no depression took place. Instead a milder exhilarative mood nearly normal in character quite comparable to that which she used to experience before the last five-year cyclothymic state developed. However, our patient was too set and rigid in mental attitude to submit to a complete psychoanalysis and only an investigation of the foreconscious was fairly undertaken and carried out. Sufficient data, however, was brought forth in this analysis to show that the infantile fixation on the father

and her own egoistic makeup held her back from the development of a normal, coöperative, easy, free and generous emotional adolescence. There was always present a rather "idealistic and poetic concept of soul-mate lover" in the dreams which had an inconstant fixation in real life upon various father types of individuals. Her casual friends believe she is quite well now, but those who know her best can see that she is not as stable mentally as she was a score of years ago, although they consider she is very much better than she has ever been at any time since her distinct cyclothymia has been in existence. She is an only child. Her father is decidedly cyclothymic, having had two distinct periods of "nervous breakdown," one lasting a year. One may at least say here that this patient has undergone great mental reconstruction, but she is probably the least satisfactory as a clinical showing of all the cases of the series. Unfortunately her present state of well being is sufficiently comfortable, so she is unwilling at present to attempt further analysis.

In conclusion I would say several other cases of periodic depressions are under treatment, but have been so far too short a time for report. However, sufficient clinical data is here presented, I believe, to show that a modified psychoanalytic approach to these psychoses is a safe and sound procedure and one worthy of earnest trial in the future treatment of such disorders, especially in carefully selected cases of the more promising type of individuals.

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ON THE MECHANISM OF SOME CASES OF MANIC-DEPRESSIVE EXCITEMENT¹

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Cases of mental disorder may be studied from more than one point of view, and in a previous communication² emphasis was laid on the importance of studying the individual case not only from the point of view of formal differentiation, but also with the aim of understanding the content of the disorder, the meaning of the morbid utterances and actions, the fundamental significance of the distorted adaptation of the patient. Such an analysis leads down to factors of more than historical significance, dynamic factors at the roots of the individual's activity. While the importance of this line of study is sufficiently demonstrated in the psychoneuroses, and is gradually becoming recognized in relation to dementia precox (schizophrenia, paraphrenia), the manic-depressive group has been chiefly studied from the point of view of formal characterization.

In the communication above referred to, brief summaries were given of cases in which "the individual attack appeared to be the reaction more or less intelligible to a definite set of circumstances, and therefore was not adequately conceived when considered to be a quite unexplained explosion of a somewhat unstable emotional constitution." The occurrence of a manic excitement as a reaction to disturbing undercurrents or painful experiences was brought into relation with the phenomena of everyday life; "the tension of painful feeling may lead to a paradoxical appearance of mirth, and flippancy talkativeness of a superficial order may conceal a serious pain."

The continued study of cases from this point of view has thrown much light on the mechanism of the manic excitement, and it seems worth while to publish briefly a few cases in which the situation has been made clear.

¹ Read before the New York Psychiatric Society, January 7, 1914.

² "The Form and Content of the Psychosis: The Rôle of Psychoanalysis in Psychiatry," *Review of Neur. and Psych.*, Sept., 1911.

The first case³ is that of a young woman, who presented the picture of a typical manic excitement when she came under observation; at that time the psychosis was of less than one month's duration. The patient was overactive, talked continuously, was easily distracted by casual sounds or objects, showed some flight of ideas; the mood was one of elation with considerable irritability. There was no evidence of hallucinations, nor of fixed delusions, but the patient made a number of extravagant statements, the meaning of which was difficult to interpret at the time they were noted. Her orientation was not quite clear; her general condition made an accurate examination of the memory and of other intellectual functions impossible. The patient complained of dizziness and of buzzing in the ears; she had a burning pain in the back of the head, like an X-ray, "as though someone were staring." The neurological status was otherwise negative; apart from a valvular heart lesion there was nothing to note in her physical status.

The patient was treated with wet packs and in the continuous bath; the excitement soon subsided, and in less than two months the patient had completely recovered.

Here then was a typical manic excitement, said to have been brought on by overwork and sunstroke. The question was whether one had to be content with the general description, and had to regard the case as a well known type of explosive reaction in a person of a certain constitution, the reaction having been precipitated by the banal etiological factors above mentioned. As an alternative the attempt was made to understand the psychosis as the resultant of the actual forces in the individual's life. No excuse was necessary for making such an attempt; for on the assumption that the disorder was an explosive reaction elicited by somewhat banal causes, the patient on recovery would be hardly better able to meet difficulties in the future than in the past. If, on the other hand, the psychosis were the resultant of more definite factors which could be traced, these might to a certain extent be open to modification and be managed in a different way.

The reconstruction of the whole situation was begun by following certain clues given by the utterances of the patient during the excite-

³ I wish to express my thanks to Dr. William L. Russell, Med. Sup., Bloomingdale Hospital, for permission to use the cases referred to in this communication.

ment. In the psychosis she frequently referred to colored men, colored disease, colored blood; she also said that she was "a poor white colored actress"; she harped on being a spinster, talked of her married name, her unmarried name; she asked what her name was. She talked of being "an old tired cock," said that she could not crow any more; "I know what it means when the cock crows twice." In close connection she referred frequently to the "Scarlet Pimpernel"; she talked of dying like a scarlet cock; "I broke my word to Miss A. as a white woman. No one knows it but the scarlet doctor whom I told here."

She frequently opened her mouth widely, and talked of someone spitting into the mouth; "Let me spit in your mouth—I will spit straight in your face."

A few weeks after admission the trends, which were beneath these utterances, were gone into in the course of an association experiment.

The references to colored blood were at once admitted to be references to sexual passion; she said that she had taken a morbid view of herself; she had not been white through and through. She had referred to herself as a "poor white colored actress"; at the very beginning of the disorder she felt that she had to give up her work, and *take up acting* or be a *nun*. These obviously represented two ways of escaping from the real world. In her associations to the word "*angel*," the patient, a Presbyterian, expressed strong leanings towards the Roman Catholic Church, "they look after their people"; she laid weight on confession, on having someone to talk over things with, "this might have prevented some things."

As to the reference to the "tired cock" crowing, she had frequently lied to conceal the fact of her illegitimate child, she had lied to a woman (Miss A.) who had done much to protect her. Some of the utterances during the psychosis may be here quoted: "When I lied, lied, lied—that's the third time the cock crowed"; "that's the fourth time the cock will have to crow to a Scotchman who is married"; "I shan't apologize all *my life*, die like a scarlet cock"; "I'm only a poor old tired cock"; "I know what it means when the cock crows twice—can you tell me how a tired cock crows—I can't crow any more."

Behind these utterances was more than a reference to Peter's denial; she gave the following associations to cock, "bird—tired cock, symbol of tiredness—a picture in *Life* of a cock with its

head hanging down and the legend, 'What's the use anyway; one day a rooster, the next day a feather duster'; have seen it frequently in book stores." She first saw it during the strenuous period when she was trying to reconstruct her life and struggling to support her illegitimate child.

For her the "tired cock" symbolized the futility of the struggle which she felt was too much for her. In the utterance "a good woman if I have to go through *life* apologizing to married men—then you don't know how a tired cock crows," "I shan't apologize all my *life*, *die* like a scarlet cock," the association becomes clear in view of the reference to the illustrated periodical *Life*.

The cock was therefore "overdetermined," and represented the meeting point of two very important associative constellations. The word *crow*, too, was probably overdetermined.

The following were the associations to *crow*; "crow—bird (1 sec.; unusually wide deviation of the galvanometer mirror), black disagreeable bird, can't bear them, make so much noise, always go in groups, *I always have to count them, one a wish, two a kiss, three a disappointment*, not that I want a disappointment." Beneath the cultured woman there was enough of the pagan to compel her to read the signs of nature to see if, after all, there were not to be granted to her some satisfaction of her deepest cravings which refused to be eliminated, even after her mistake had seemed to put such satisfaction out of reach.

The "scarlet cock" was intimately associated in her utterances with the "Scarlet Pimpernel." Her association to *scarlet* was *red* (time 1.6 sec.; unusually wide deviation of the galvanometer mirror). After a few associations relating to an attack of scarlet fever, she referred to the "Scarlet Pimpernel." "I don't know why I associated it so much, I talked of it in my sickness, it was used as a password, I felt I had a password with Miss A., it seemed to me there was a password to be exchanged—I had to hang on to some password to save my reason, just the same as I was discussing whether I should give up teaching to *be an actor or a nun*, yet I had to keep in touch with Miss A., save my work, perhaps my reputation, what could I do?—that was uppermost, I had to save myself to work, save my mind to work for my child—the hero in the 'Scarlet Pimpernel' has two characters; in Denver (where she fell sick) I couldn't sleep, I asked if they couldn't put adhesive over one eye, give it a rest, then over the other, the hero could sleep with one

eye open, in one character he was stupid, in his own life among his own people he appeared stupid, but he had a brilliant intellect——"; a password meant "standing for something else, perhaps I want to get away from myself, I have tried to stop thinking of my life in Washington" (period of careless living and seduction).

The "Scarlet Pimpernel" was no trivial utterance, but expressed her longing to gain recognition and admiration for brilliancy, to have her apparent stupidity recognized as a mere cover, to live an efficient life, to save her reputation, to save her personality and support her child. In that "password" was focussed the whole conflict of her life, and in the psychosis the consciousness of that conflict was not submerged.

A few further associations may be mentioned in this connection; to *wicked*, *stupid*, she merely repeated the stimulus words after a long reaction time (9.4 sec., 4.0 sec.). "Stupid—stupid, just as I did to wicked, I just seemed to see that, I suppose I was thinking about myself, but if I have self-confidence, I don't think I am so stupid—I have always more or less depended on other people." "Pride—*myself*, I have a good deal of pride, I wouldn't acknowledge it, pride about my work, my looks, I like commendation, thrive under it——"

"Pity—(she had given *poor* in the association test)—I don't remember it at all, charity, I wonder whether I do pity myself (smiles), I think I have (hesitates), not because I've had a child, because I didn't take advantage of my opportunities"; but she regretted the lack of intellectual accomplishments because they would have been means to secure admiration and affection.

In this connection there was an interesting pseudo-reminiscence. After giving her associations to stupid, she said—"And it was the same with *awkward*, I gave *awkward*, I'm not clumsy, perhaps the same as stupid—(give an example of awkward!)—such as not to know when asked a question." As a matter of fact *awkward* had not been given as a stimulus word.

The length of the association time was frequently acknowledged to be the result of a deliberate suppression, *e.g.*, "child—I gave *niece*, I was going to say *mine*, I remembered the nurse was in the room"; "to paint—pink—pink carnations," but she admitted that she had suppressed the personal association that she had rouged—"I wouldn't have got through my teacher's course without it, they

would have thought me sick, I did not want to be sick" (danger of examination and disclosure of her secret).

How closely the utterances in the psychosis were related to the dominating trends in the patient's life was also seen in the frequent recurrence to the topic of spitting, of which several examples have been given above. In the same context we may also quote the following utterances: "Have you ever wiggled from a snake, and died to hemorrhage like a perfect woman?" "I can wiggle my leg like a snake," "the only way I can get well is to wiggle and make someone laugh"; "I have Mrs. S.'s disease."

The patient had once temporarily cared for Mrs. S., who was delirious; Mrs. S. spat a good deal, thought she was having a baby, thought a restraining strap was a snake. The patient had been much impressed with the possibility that if she herself became delirious she might give up her secret, and in her manic condition she felt that she was behaving like Mrs. S. The utterances were probably further determined by the erotic content of the utterances of Mrs. S.

The result of the above analysis had been to show that beneath the smooth conventional surface of the routine life was the actual woman, striving rather wearily and with a feeling of futility to reconstruct her life ("tired cock"), supporting her illegitimate child by consistent work and the sacrifice of all the usual pleasures, ashamed at having lied more than once (the cock crowing) to an admired woman friend, regretting the want of an opportunity to unburden herself (leaning towards the Roman Catholic Church), but also longing for a more positive happiness, eager for any omen to indicate the possibility of it (associations to crow), sensitive about her lack of attractiveness, but consoling herself by the feeling that beneath the self seen by the world was the real self of brilliant capabilities ("Scarlet Pimpernel"); in addition, giving way from time to time and with much conflict to an old standing habit of masturbation.

It is sufficiently plain that such a working adjustment involves considerable strain, and an equilibrium of this nature is not of the most stable. What explained the actual break in the adjustment, the date of the onset of the disorder? Was it that the limit of resistance had been reached, or had certain internal factors received an augmentation of strength, or had destiny created a situation beyond her power to cope with? A careful review of the actual situation preceding the attack made the problem more clear. A very

short time before the attack the patient and her mistress were interested in a sensational newspaper paragraph. This contained the statement of a girl, picked up on the streets of Chicago, who said that she had taken a berth on a train three days previously, but remembered nothing subsequently, as she had been probably drugged and assaulted on the train; she had come to herself two or three days later, and found a mark on her throat as if received during an assault. The railway company maintained that the bruise was self-inflicted, and the patient and her mistress discussed the improbabilities of the case, and agreed that the girl's statement was a falsehood. Immediately before the onset of the psychosis the patient had to take a long railway journey; she was in the position of the girl of the newspaper paragraph, whose story came back to her mind. She felt afraid the first evening that she might be drugged, she thought that someone might look through the curtain of her berth, she was suspicious of the colored porter, she felt chilly and took a little whisky. The next day she was menstruating; she felt better, but on arrival at her destination her usual control was disappearing. She realized that she was talking too much, in conversation with a young man, who happened to be at the hotel, her usual reserve was gone, and in a few days the full-fledged manic picture had developed. The exposure to heat was subsequent to the first indication of loss of balance.

When the patient was asked why the newspaper story should have so much importance for her, she did not see that it had any special significance; she did not realize that it had an intense personal significance until the physician had put the pointed question whether it was not in its essence her own story. Only then did it slowly dawn upon her; yet she had previously told the physician of the circumstances of her seduction, how after a champagne dinner she was unconscious, and must have been seduced, for her menstruation ceased, and after the third month the diagnosis of pregnancy was made. She herself denied any more precise memory of the actual seduction. How far this amnesia was complete, or how far it might have been possible to resuscitate memories repressed on account of their painful nature, is a matter of doubt. The question was not pushed. The precipitating factor was now apparently demonstrated; the conscious and subconscious forces, reactivated by the newspaper paragraph and accentuated by the actual situation of the journey, were powerful enough to make the usual

control no longer possible, and the patient at last gave expression to the forces so long controlled with difficulty.

The case shows how a manic excitement may be the expression of a rather intense conflict in the patient's inner life, certain factors in which have happened to attain an intensity which breaks down the existing equilibrium, so that the repressed factors assert themselves in only slightly disguised form. The characteristic feature is that this conflict is not carried on at the deep level where the schizophrenic tragedy is acted, but takes place on the very threshold of clear consciousness; the patient has a fair inkling of the factors at work, may realize to a large extent the meaning of the reaction, and to appear on the stage of conduct the forces at work do not need to assume the subtle disguises which make the schizophrenic drama so hard to follow. When the patient in the midst of her excitement was asked about her child, and told that her reaction was an evasion of her difficulties, she said, "I am not fooling with you, I'm hysterical—I don't want to get well, and you've been posted like everybody else, and I haven't had a baby, and I haven't colored blood."

In this statement the patient gave notice of the cessation of her struggle, and welcomed the relief, and the cheerful abandon of the manic no-doubt largely depends on the cessation of the continual inhibition. The emphasis which the patient laid on her desire for confession encourages one in such a case to penetrate beneath the flippant surface of the psychosis, and to help the patient to talk frankly over the really serious factors in life; in some cases a serious interview exerts a demonstrable influence on the clinical picture, at least temporarily. The onset of the psychosis in this case at the time of menstruation is also a fact not to be overlooked, for the break of adjustment was no doubt favored by the periodic variation in the crude instinctive factors.

It is not pretended that the above attempted reconstruction of the mechanism of the disorder is a complete answer to the question why this woman should have had a manic attack at the given date. Why did she not have a reaction of another type? As in the psychoneuroses and in the schizophrenic group (*dementia precox*) we have been forced to go down to the roots of the personality in order to understand the surface phenomena, so here too the type of reaction would have to be understood in the light of the forces that were at the bottom of the individual character. We would

have to explain how it was that the patient had early drifted into a rather frothy social life, how she had been accustomed to take alcohol rather freely, and how her sexual instinct had been so poorly taken up into her adult life that an illegitimate pregnancy was the result—such familiar facts of the anamnesis are in reality a series of further problems. In attempting to estimate the factors which had hampered or favored the development and elaboration of her sexual life, one would be forced to take into account its earlier stages. That this factor had from an early age been a difficulty in the patient's life was shown by the fact of masturbation since the age of five or six; the habit had been self-taught, and involved much internal conflict. In the association test frequent references to her father cropped up, and the rôle played by her affection for him had no doubt been an important factor in her life. She had a great deal of pride in her father's unpretentious family; she had been much fonder of her hard working father than of her ambitious mother, whose chief pleasure was in society. The full bearing of these facts was not gone into.

It is evident that the complete study of such a case is a task of considerable magnitude.

The second case is that of a rather brilliant young woman who came under observation a few weeks after the development of mental symptoms. The patient presented a typical manic picture; she was overactive, elated, talkative, played on words, was easily distracted by casual stimuli; there was no evidence of hallucinations nor delusions; her flippant answers made it impossible to examine accurately her intellectual functions, but she was apparently oriented and showed no defect in her memory. The following samples were typical of her utterances: (Name of this place?) "The House of Mirth, Marathon, marry you"; "I'm a *club-foot sandwich*, a southern negro, that knee won't grow" (tapping her knee). She was keenly observant, and made pertinent remarks on the details of the environment. Her physical health was excellent.

The patient had been working very hard in a new and responsible position, and the psychosis was attributed to overwork.

The spontaneous utterances of the patient consisted largely of flippant comments, rhymes, plays on words, but interspersed through these were open references to certain tragic circumstances in her life; she had married a man of perverted habits, whom she left on

her wedding night, and subsequent divorce proceedings had subjected her to humiliation and yielded unsatisfactory results.

While the patient was still definitely manic, although less active than on the first observation, an endeavor was made to reconstruct the situation out of which the psychosis had developed; it was considered possible that a serious review of the important factors might tend to cut short this inferior type of adjustment.

During the interview the patient frequently smiled, drifted a little along superficial lines of association in her talk, showed a tendency to resume her previous antics. She listened, however, seriously; and although her conversation was mixed up with drifting allusions, at times she talked in a very direct and sober way about her troubles.

She talked of having been "murdered spiritually" and of having caused "murder"; she was not to blame for being so attractive; all her women colleagues had had trouble similar to hers; she was very sympathetic, but had been a source of danger to others. She regretted that she had been a danger to one woman, her ideal, on whose beauty she commented again and again. She had found this friend tired, had massaged her; this had aroused a dangerous attitude in the other, and she herself had become quite passionate. She suspected that similar improper proceedings were going on throughout the house ("projection"). She then felt that she had to go crazy.

As to the fiasco of her marriage, this had made it impossible for her to love any man; she had felt that she could only find an outlet for her affections in work for her own sex, but there, too, she had met difficulties; "I had either to go crazy or to die—one can't always be struggling."

In this connection reference may be made to other facts confirming the importance of the homosexual trend in her nature. Among her intimates she was nicknamed David, "as she had a talent for friendship"; when asked about this during her convalescence she was a trifle embarrassed, said that the similarity was not meant to be an identity, referred to the main incidents in David's life but made no reference to his friendship for Jonathan. When this was referred to, however, she went on to discuss such relationships and the fundamental trends underlying them, and referred to certain suspicions touching the friendship of two clergymen. One morning the patient, while still hypomanic, dressed herself up like a man, with pajamas rolled up to the knee; on another occasion she said, "I was meant to be a man, my father meant me to be a man, I had

my father's heart" (many of her references showed the important rôle in her emotional life played by her affection for her father). At the very onset of the psychosis the patient had shown an exaggerated solicitude for the health of a woman friend, which led her into rather absurd extremes.

The analysis had thus revealed dangerous elements in the patient's equilibrium previous to the attack, and some factors which had probably made these elements unusually prominent. As the patient became better she made the situation still more clear; she told how the man she had married had recently got into trouble, and just before the onset of the psychosis she had been appealed to in order to save him from the threatened consequences of his own acts. She had thus been put in a position out of which she saw no outlet: "I had either to go crazy or to die."

In this case, as in the previous one, the analysis did not go far back into the development of the patient's character and of her mode of getting satisfaction out of life. The painful episode of her marriage did much to explain her later difficulties, but on the other hand itself required explanation. That her sexual instinct had early been a source of difficulty was obvious from references to experiences at an early age, while the later prominence of a homosexual trend was further evidence of the fundamental difficulties placed by this instinct in the way of a smooth adaptation to life.

In this case, too, the important disturbing factors were to a large extent within the realm of clear consciousness, and the patient had remarkable insight into the nature of the mental reaction as indicating an inability to continue the struggle with her instincts: "I had either to go crazy or to die." Another possible solution of the struggle had suggested itself strongly to her, namely, that she should enter the Roman Catholic Church (*cf.* the previous case: "I had either to become an actor or a nun"). During her menstrual period the patient became much more excited and irritable; she talked of the physician as her murderer (*cf.* her earlier statement that she had caused murder, referring to her sexual experiences). When quieter, her attitude to the physician was somewhat erotic, but she would apologize and say that if any woman, man, or child likes their doctor, they say "any old thing" without wanting to flirt.

The third case is that of a middle-aged woman, a respectable dweller in the suburbs, the wife of a hard-working clerk, absorbed in his business and his own precarious health, which had precluded

marital relations for a long time. The patient had had one previous attack of excitement, from which she made a complete recovery. The present attack came on immediately after nursing her boy most devotedly during an acute illness. The clinical picture was that of a typical manic excitement. She was overactive, talkative, exhilarated, but occasionally tearful; her stream of talk was directed by superficial associations. There was no evidence of hallucinations nor of delusions; she was clearly oriented, had an excellent memory, and some degree of insight into the nature of her disorder. The patient had mitral incompetence well compensated; she was slightly deaf, otherwise her physical health was good.

The attack was attributed to the protracted strain of nursing her boy; but it was clear that the nursing had been itself a rather feverish and exaggerated activity, and it was interesting to know that previous to this devoted nursing she had been an intolerable nagging mother for more than a year, while in the psychosis she more than once stated that her children would never have been born if she had known how to avoid conception.

During the prolonged manic attack it became possible to form an approximate idea of the actual structure of the patient's life, of the factors which had led to the former attack, and of those which had precipitated the present attack. It is difficult to condense the results and at the same time to give a correct impression of the material from which these results were drawn; the material consisted of observations during a period of many months of her behavior, her spoken utterances, her letters, her dreams. When the excitement simmered down and the patient was able to coöperate in a more consecutive review of her life, she gave still more definition to the interpretation which had been tentatively arrived at.

At the first interview her drifting talk contained many references to her husband "he is a fool—physically weak on account of masturbation", and she spoke of being divorced; she referred to "an anniversary coming round—a broken engagement," an engagement when young to a bad man. On the third night after marriage she had unconsciously murmured "forgive me," as she thought she saw the figure of her former sweetheart (Mr. B.) at her bedside; to her husband's query she had answered that she was repeating the service. She talked of her own age, said that she would allow any young man to do anything to her; on the other hand she emphasized her correctness: "I wouldn't speak to a man unless I had to" (here she took

the hand of the examiner); "I was a flirt, but now I am an old hag." The contrast between youth and age occupied her much, and in another interview, on seeing the stethoscope, she said, "You're young. I'm old—you old flirt—try my heart—I'm too old." Again and again she referred to the fact that beneath her conventional married life were persistent regrets with regard to an old love affair; she apparently felt it necessary to balance all her references to this past affair by emphasizing her satisfaction with her married life. "*I have a lovely life, interested in charity and society in a small way. I got through with my life before I was twenty-five*"; in the second half of the statement the truth breaks through the conventional crust of the first half. She referred to "awful things before marriage"; her husband would not let her talk to him about them; she still wanted to talk over these matters with him. As to divorce she said, "No one thinks of a divorce unless they are ready to step into a second home" (*vid. infra, Dream*).

At a later period of her attack the patient made her statements much more definite, and referred to her personal difficulties and the rôle they had played in her life. During interviews the patient would, as a rule, be cheerful and flippant, but would occasionally break down and cry, only to resume her cheerfulness and make light of her tears. She stated that when out automobile riding she would scan every passing car to see if it were that of Mr. A., an old friend; she thought this attitude childish, probably the result of her protracted mental attack. She denied any affection for Mr. A., "I was fond of *interchanging ideas*." She then admitted that she had not realized her true feelings towards this man until she heard of his marriage; it came as a shock to her. She did not wish to give the date of this shock, evidently so that it might not be brought into relation with her own mental symptoms. "I don't want to tell you when I felt badly—but that was over my son. I gave my thoughts to my family. *I never had any foolish thoughts* when I was caring for my son—(When did you get the shock?) It was in January. This is as near as I will tell you—don't ask me any more. I worried about my son in December" (but the husband placed the onset of the boy's symptoms in January), "I don't like to tell you dates." She still wished to see the cause of her sickness in her care of the boy, and hesitated to have her convenient dates corrected. The sequence had been that she had learned suddenly of the marriage of Mr. A., with whom she had "*interchanged ideas*" for many years, and for whom

she had evidently had a very deep affection; to ward off the realization of the actual situation she had devoted herself with unsparing assiduity to the nursing of her boy. Even this method had not been quite successful, and the situation was complicated further by certain resemblances between her boy and Mr. A. Her complex mental state was probably also influenced by the fact that she had been for some time nagging the boy, that she had a latent desire that he had never been born, that she felt that her husband's weakness was partly due to past masturbation, and that her son's mental breakdown had also to be attributed to this fact. During the period of nursing, the patient's resistance had given way, the conventional adjustment was no longer tenable.

In a later interview, which was at first characterized by the usual mixture of flippancy and tearfulness, of admission and withdrawal, the patient became quite serious, and said that the trouble was outside her home; she had a liking, not an affection, for Mr. A., she intended to get a divorce, and leave home. She said that she would have no scruples in making plans that would involve the other man's home. But after this assertion of her resolve to get satisfaction at whatever cost, she asked the physician seriously if he could influence her to prevent her from wishing to leave her home. The patient had evidently a remarkable insight into the nature of her trouble. She later wrote: "I don't think Mr. A's. wife is half good enough, but if he is content that is all there is to be said, but I wish I didn't every morning at my solitary breakfast think of those two together; I must be turning into a semi-idiot."

So much for the precipitating factors of the patient's second attack. A further review of the case threw light on the onset of the first attack, which had occurred many years previously.

The patient had frequently referred to an intrigue with Mr. B. before marriage; after a time she became more explicit, and admitted how large a part this affair played in her whole life. The intrigue had been carried on over a period of about one year; she gave a definite date for her seduction. She broke off relations with this man because he was dragging her down, and she could not raise him up. After two abortive engagements with other men she married her present husband. "It was a marriage without a shred of affection, a marriage of respect." She thought it "more proper, more lasting." Her old love had not died, "absence makes the heart grow fonder"; she still had "a lonely feeling under the heart." She

admitted having fantasies about going away, having a lovely time for a month or so, and then paying up. She talked of "the lovely life I expected in a sunny land, with flowers all the time, and music and pleasure-loving people in the land of the siesta" (Mr. B. was of Italian origin).

Married to an invalid of narrow interests, her sexual instinct unsatisfied, she had just before her first attack visited the scene of the old intrigue and gone over all the hallowed spots; it was the anniversary of her seduction. She returned home with the desire to confess all to her husband; she already presented symptoms of loss of balance, was exhilarated, talkative, referred to divorce, accused her husband of infidelity; the clinical picture was that of a manic excitement. This condition, after lasting for more than one year, was followed by a phase of depression, after which the patient regained her previous equilibrium, but the memory of the old love affair was only dormant.

Beneath the surface the old longing persisted, and it manifested itself very clearly in the second attack; it furnished the material of her fantasies by day and of her dreams at night. The following is a good example of her dreams, and was written only after she had refused to communicate it orally.

"Dr. Campbell, now I will write you my dream—I really *couldn't tell* it to you and look you in the eyes afterwards—I will tell it exactly as it was, except I will omit some of the affectionate conversation, if you please. I seemed to be taking a long journey by railroad and hunting for some place—I was not comfortably dressed and had little money—at last the guard called out D—— and I got out. (I never heard of that place, did you?) Well, the road was rough, and I walked and walked and walked past many gangs of foreign workmen. I was dreadfully tired and all alone, and in fear for night was near. The street lights shone in the distance and I seemed to be in an impassable swamp—I think I was fleeing from my family and they were hostile to me (I am a little hazy on that point). Well, I saw a bright light, and in great fear I half awoke and the lantern was going by, then I dreamed on and this is not so clear. I was sick and faint with fright and I went up a path in the swamp and into a new house and up the stairs, and my shoes were full of water. I was helped to undress and put into bed, and then the door opened and in came my ghostly friend whom I imagine by my side when I am sleepless, as I told you, but whose name I am not

willing to speak to you. He came in and shut the door. His brown hair had turned grey [identification with a rich man, who appears in another dream; Mr. B. had postponed marrying patient on the ground of poverty] and he had on his mixed business suit. He is very quiet in his ways. He sat close by the bed and said, 'Now Mrs. S. I want you to rest, no one shall harm you,' and we talked for a long time and my clothes lay wet on the floor. He held my hand and my head too, and the talk was the affectionate part which I shall certainly omit, and suddenly there was a bright light and I woke up. So dreams do make a difference, for I am generally so unhappy when I wake up."

The dream is sufficiently clear to require no detailed explanation.

The patient said that in the daytime she continually felt that she was accompanied by someone. She referred to him as "my ghost"; she would go to sleep by imagining that he was beside her, "good-night now, it is time for me to think of my ghost"; she felt that she could not eat breakfast unless she imagined that someone was in the room.

To make clear the level of consciousness at which the conflict in the patient's mind took place, to show how little the actual difficulties were submerged, how good was her own realization of the difficulties, a few of the patient's own statements may be quoted. They show that she herself considered her condition to be a mental disorder, a reaction to a situation which she felt to be too much for her, a situation in the face of which her usual working compromise could not be maintained, and for which no solution within the limits of health was available. In the midst of her flippancy she said, "I'm not so sensible as I make myself out to be. I keep thinking of things I don't want to think of." She used the following expression, which is somewhat pathetic in its appeal, "I am not begging to be happy, *I'm trying to get rid of being artificially happy.*" In a letter she writes: "I know I shall be punished for this (*i.e.*, leaving her home) and I am afraid, but I have made my choice, and I go over it over and over again and think why cannot I go on with my life always as it seems marked out for me, but I *cannot*. I realize I cannot, I must let myself go. I guess I lived in a fool's paradise for a long time and didn't know it.—I think I write rather more honestly than I speak. When I talk to you I like to gloss things over, so they sound at least half way respectable." She said that her life was over, "my instincts were crushed years ago, I don't think I'll have strong health again,

you need something to back that up——." As to her manic behavior, "*I like to make a fuss all the time just to forget, that's why I made this awful fuss.*"

In her attitude towards the physician the patient showed an alternation and mixture of like and dislike. In her irritable and impatient condition she would make accusations which relieved her of any personal responsibility for distressing thoughts, and into these accusations she carried an excess of feeling which was only intelligible when traced to its source. This method of relieving the personal tension by indignation and accusation against others is an important factor in determining the attitude of the manic patient to the environment. Thus, one day after a pleasant greeting, she came back to the physician, spoke to him white with rage, stamped her foot, called him a nasty liar and other opprobrious names, and asked him if he would have dared to make the same remarks in the presence of her husband. An explanation was not forthcoming. A few days later, when more accessible, she said that the physician had suggested that she leave her home; she then corrected this to the statement that he had said *she was not satisfied at home*. After playing on this topic for a little, she vigorously asserted that she would leave her home, that she intended to get a divorce and live out her own life. The furious reaction against the physician was therefore a reaction towards her own strong desire, for the presence of which she would have made the physician responsible. On another occasion she said, "I don't get angry at you, I get angry at myself for not being able to keep it all to myself." She asked the physician to "swallow down your anger and disgust, which influence your actions more than you are aware."

The patient on several occasions reacted rather well to an interview with a frank review of her actual difficulties, and fully appreciated the bearing of the treatment. "You are right, my treasured friend, I *am* growing a little better, and I do see things I don't like a little clearer, that is an awfully involved period"; "the past is over. You may help me arrange my present way of regarding things all you wish, and I will follow you to the best of my ability. I am far from being flippant—I honestly enjoy talking with you, and I have slept so much better these last few nights, but don't ask me any unnecessary questions, please. Vital matters I do not mind at all discussing, as you seem to think". (extracts from her letters to the physician).

In this case the nature of the conflict and the level in consciousness at which that conflict is staged, correspond with what has already been observed in the two previous cases. The conflicts which proved disastrous in later life had their foundations laid in earlier life; an intrigue of one year, two abortive engagements, and finally "marriage without a shred of affection," indicated a manner of dealing with her sexual instinct which could hardly pass with impunity. What earlier factors had determined this faulty adaptation of the young woman to her adult responsibilities was not investigated; a thorough review of her childhood was not taken up. It was known that her mother became insane during the patient's girlhood, and the patient had been devoted to her father.

The fourth case is that of a young woman who presented the symptoms of a typical manic excitement. She was overactive, talkative, easily distracted by casual impressions; there were no hallucinations nor delusions, her orientation and memory were excellent; she had good insight into the nature of her condition. Her general nutrition was good, there was no disorder of the internal organs; she had difficulty in control of her sphincters, and some anesthesia in the distribution of the lower sacral roots, owing to an old spinal trauma sustained during a previous attack. After a period of several months, during which the excitement varied in degree from time to time, the patient was able to resume her usual social life.

The patient attributed her attack partly to the strain of some routine nursing she had to do at home, but laid special emphasis on the rôle played by the sexual instinct. She at once plunged into this topic: "First one (*i.e.*, engagement) was broken off, then one was hopeless, terrible sexual pains, no satisfaction for it, if I only had some way of curing it, aren't the baths good for it?" She was affable, bright, and eager, but said that she was sad and melancholy: "I broke off a first engagement without exactly knowing why, now he has married another woman"; she again spoke of "terrible sexual pains with no satisfaction. It's terrible to see my two sisters married with such lovely babies." Just before her attack her sister with two babies had come to stay at her home, and this had made somewhat more acute the tension of the forces which she was already barely able to control. The leading interest in the patient's life was a rather hopeless attachment for a distinguished professional man which she was carefully nursing; the hope of marrying him, although to an outsider extremely fragile, meant everything to her, and probably

did much to sustain her in the cheerful conduct of her life. The patient had already had several attacks; between the attacks she was described as "an exceedingly agreeable personality." A review of the earlier attacks elicited several facts of cardinal importance.

The onset of menstruation had been a critical period in her life, and during the second menstruation, which came on after a horse-back ride, the patient was said to have been hysterical. At each succeeding period she was a little upset. At the age of fourteen, after a period of depression with ideas of unworthiness, she passed into a condition of overactivity, and did many curious things; at one period of this attack she persistently soiled herself. One of her favorite forms of activity during this period was to go through various military manœuvres. During her college period she had an attack in which from a "modest, sweet, innocent girl," she changed into a boisterous, careless, and quarrelsome one; this condition persisted for several months; the patient was boastful, talked a great deal about religion, but after a period of several months returned again to her previous condition. At the age of twenty the patient had a prolonged period of excitement, in the early stage of which she jumped from a window and sustained a fracture-dislocation of the spine. Three years later she had an excited attack of five months' duration; during this attack she was hostile to her family, thought her sister was dead, wrote to her father that God had told her that her mother hated her, she showed a strong religious trend; masturbation was noted during this attack. One more attack of a mild character, in which her religious trend again appeared, occurred four years later, and then the attack which is at present under consideration. The account of these attacks from the patient herself threw a great deal of light on many of the incidents. The rôle which her childhood affection had played in her life stood out in sharp relief. In an early attack she had gone through military manœuvres; her father was a soldier; he, the patient, and her sister had visited the scene of his old exploits, and on the journey her sister had shared the father's berth to the patient's indignation. After one day's riding together, menstruation came on, and she had to rest while her sister rode round with her father (in one attack her sister is dead): the patient had then shown "hysterical" symptoms, and these tended to reappear at each period. When the patient was older she became engaged, but the engagement was broken over some trifle, as she refused to accept some condition; another match which was possible

did not result in anything, partly on financial grounds. The attack during the college period had come on immediately after the rupture of the engagement.

Her account of the following attack, during which she jumped from the window, was striking. She had gone to join her father in a separate establishment of his own, as he was now estranged from the family. She was menstruating. She was ruminating over her broken engagement, was evidently rather excited, and aroused the anxiety of her father; when he entered her room, she felt that it was in order to assault her, and she was panic-stricken and became wildly excited. When taken home she jumped from the window.

In the next attack the hostility to the family, especially to the sister and mother, with the letter written to the father, again revealed the importance of the same component in her life. All these facts stood out in still greater relief in view of the complete estrangement of the psychopathic father from the rest of the family.

On further examination of the situation out of which the present attack had developed the patient referred to a quite recent visit of her father to her home; he had come, had spent a few days, and again gone, but the emotional value of his visit to her would have to be estimated in the light of the facts related above rather than judged by her own clear feelings.

In this case, as in the others, we find an intense conflict which, to a large extent, is clearly conscious, but here, much more than in the other cases, we receive an unmistakable indication that in estimating the whole conflict of forces the influence of the affective life in childhood must also be taken into consideration. In the three previous cases, too, the father had dominated the affective life of the child, and it is striking that in all cases the instinctive life had been so inadequately handled. The conflict of later years has been brought into relation with earlier mishaps in the sexual life; but these mishaps are not to be taken as incidents purely of accidental origin, into which the personality of the individual did not enter at all. One must try and understand these mishaps, just as we try to understand the psychosis; if the psychosis is to be looked upon as an inferior type of adaptation in face of a difficult test imposed by the circumstances of life, is the earlier mishap not also to be considered as an inadequate adjustment in face of the crucial test of the adequate external application of the sexual instinct? If, then, one cannot so easily absolve the patients from their share of responsibility in these earlier mis-

haps, the problem is to determine what factors stood in the way of a more normal adjustment. We are thus carried back to an analysis of those intimate factors which lie at the roots of the instinctive life of the adult, and which can only be adequately understood when we have traced the development of the affective life from early childhood.

In the cases above reported autoeroticism, childhood fixation of the affection on the father, and homosexuality were factors of importance, but in none of the cases was the analysis carried very far; that is a point yet to be done, and Abraham has already emphasized this aspect of the problem. The point of attack in the present investigation was somewhat different, the aim was to try to understand the attack in relation to the situation out of which it evolved; but while this examination has yielded fruit, it has also shown that one cannot rest there; the situation cannot be understood until the patient is completely understood in the light of the individual development.

In discussing the different types of neurotic disorders Freud⁴ has separated one group where the most striking factor is the denial by the outer world of a suitable opportunity for satisfaction of the libido, while in a second group greater importance is to be laid on the internal difficulties which prevent the adjustment of the individual to a situation which offers fair opportunities of satisfaction. In the latter type the individual cannot adjust himself because he is unable to exchange certain forms of satisfaction for those other forms which would naturally supplant the former in the course of development. Freud emphasizes the point of view gained from psychoanalytic treatment, that we must give up a fruitless contrast of external and internal factors, of fate and constitution, and try to find the cause of the disorder in a definite psychic situation which may be determined in different ways. These remarks, deduced from the study of the psychoneuroses, apply equally well to the formulation of the etiology of such cases of manic-depressive excitement as have been reported above.

The patient, whose manic excitement can be more or less understood in the light of the above considerations, may at another period present a typical depression. In my previous communication

⁴ S. Freud: "Über neurotische Erkrankungen," *Zentralbl. f. Psychoanalyse*, 1912, p. 297.

I have referred to the case of a young woman of twenty-five, who in her adult life had twice reacted to a painful experience (marriage of adored brother, marriage of a man she admired) with an excitement, while in girlhood she had twice reacted to a painful experience (death of father, drowning of favorite brother) with an attack of depression. The analysis of attacks of simple depression made along the same lines yields results of no less interest than those obtained from a study of the excitements. It would go a little beyond the scope of the present communication to furnish an example of such an analysis, and this is perhaps not necessary in view of Abraham's⁵ recent paper.

Abraham has stated his views in the rather dogmatic and involved terms of a certain libido theory. In this communication I have endeavored to keep as closely as possible to a clinical formulation of the problem in terms which involve as little theory as possible, a formulation which is easily open to the control of wider observations.

The question may arise as to how far the above cases are typical of the manic excitement in general, and whether the formulation of the mechanism in these cases may not be applicable to only a comparatively small group of cases. One point which determined the detailed study of the above cases was their very typical clinical picture; it was felt that the principles which would explain these cases would be applicable to a very large proportion of cases. In many other cases it has been possible to see the same mechanisms at work, although they have not been traced out in the same detail. It is true that in many cases a satisfactory analysis is not possible; during the attack the symptoms may prevent an analysis, while on their return to their normal equilibrium the patients may not be willing to coöperate to the necessary extent. From the point of view of prophylaxis, a thorough analysis of the case is very advisable.

The insight gained from these typical cases enables one to deal much more satisfactorily with many cases of acute excitement, where in a setting of overactivity, talkativeness, and exhilaration there occur many peculiar reactions, and where there is a florid

⁵ K. Abraham, "Ansätze zur psychoanalytischen Erforschung und Behandlung des manisch-depressiven Irreseins und verwandter Zustände," *Zentralbl. f. Psychoanalyse*, 1912, p. 302.

development of peculiar ideas, which evidently represent the distorted symbolic expression of repressed trends. Here there are obviously conflicts in the patient's life at different levels, and instead of trying to make a formal differentiation between manic-depressive insanity and dementia precox, we are encouraged to try and estimate at what level the most important conflict takes place, and to formulate our diagnosis and our prognosis in dynamic terms which take account of the individual psychology of the patient.

SUMMARY

In many cases of manic-depressive excitement the onset of the attack becomes intelligible in the light of a careful reconstruction of the whole situation out of which the attack has developed.

The difficulty of adjustment which leads to the manic attack in these cases is much less deeply seated than in dementia precox and allied conditions; the conflict is much more clearly realized by the patient, the flight into the psychosis coincides with the relaxation of efforts which are recognized as inadequate to deal with the actual situation, the cessation of the struggle permits the frank expression of repressed elements. The elated mood and exuberant activity of the manic patient are thus partly explained.

It is important to study closely the content of the utterances of the manic patient in order to understand the meaning of the situation leading to the attack; this line of investigation includes an accurate estimate of the equilibrium of forces which make up the patient's personality, and involves a thorough study of the individual's development.

A thorough review of the above factors may put the patient in a better position with regard to the possibility of avoiding further attacks.



SYNOPSIS OF THE HISTORY OF A CASE IN WHICH THE COURT RUSHES IN WHERE PHYSICIANS FEAR TO TREAD

BY DR. MAURICE C. ASHLEY

MIDDLETOWN, N. Y.

R. W. S., male, age twenty-eight, single, occupation bookkeeper.

Family History: The paternal grandfather was much like the patient in character and manner, but his sanity was never questioned. The paternal grandmother and maternal grandfather were normal so far as known. The maternal grandmother was melancholy. She attempted suicide by cutting her throat, but was unsuccessful, and made no further attempts. She died of inflammation of the stomach at the age of seventy-one.

The father was killed by accident at the age of sixty-two. The mother is well. A maternal niece is an epileptic. A paternal uncle occasionally overindulges in hard cider.

The families on both sides are said to be above the average in intelligence and have made the most of their opportunities.

Personal History: The patient was born in 1875. He is the eldest of four boys, one of whom died of Bright's disease at the age of nineteen, the other two being well at present. He began his education in a country school, later going to a high school, graduating in 1899, the first in a class of eighteen. He was very studious even as a child, and preferred reading and studying to playing with the other boys, nor, as he became older, did he join the social life of the young people of the neighborhood. He was not sickly as a child, neither was he robust. He had the usual children's diseases.

He had taken a teacher's training course along with his high school work, and showed no signs of overwork. He began to teach in the fall of 1899. Soon afterwards he showed signs of a nervous breakdown and gave up his school in January, 1900, remaining at home for the next two years with so-called "nervous prostration." One of his brothers said: "He doped around the house, complained a great deal and was cranky." He was not thought to be insane.

and when he regained his usual health was able to pass a United States civil service examination in the Internal Revenue Service. He obtained a position as a gauger, earning \$3.50 a day till February, 1904, when he had an attack of la grippe, followed by "nervous prostration," necessitating his giving up his work.

In July, 1904, the patient went to a hospital in Syracuse to have a varicocele operated on. The patient said he had a dream when coming out from under the influence of the anesthetic, and in this dream he saw the devil, and ever since he has believed himself to be under special influence of the devil. He became the subject of much fear, and his people noticed that he could not decide things quickly, as he had formerly done. He improved during the summer, but in the autumn his father was killed by a fall, which gave the patient a setback, so that he went into a sanitarium where a cousin was a nurse. He grew worse and jumped from a second story window, permanently injuring both ankles. He claimed he had no recollection of his jump, nor of anything else till three days later. It is thought that he jumped to escape the devil. He left the sanitarium in March, 1905, and went home. He slept poorly, had a variable appetite, saying at times that he must not eat; was constipated and complained of feeling cold. He did not talk much of his symptoms and was more or less secretive.

On May 12, 1905, being dressed for a drive and waiting for his mother, he stepped into the bath room, took a razor, and almost severed his trachea.

He was admitted to the Middletown State Homeopathic Hospital May 30, 1905. The *physical examination* at that time showed him to be a rather tall and thin young man of nervous type, with dark hair and skin and gray eyes. The ears were small with adherent lobules, the nose prominent, while the chin and forehead were somewhat receding. The palate was highly arched. The internal organs, the senses and the nervous mechanism showed no organic departure from the normal. The patient complained of a "grippy feeling" about the heart, and a "pulsing of the nerves."

The mental examination showed him to be somewhat depressed with a tendency to worry. He was very self-centered and introspective. In telling of his trouble, he said: "I had always been rather melancholy—well, not exactly melancholy, but from a child I had been alone and did not care to mix in. I would read of people having different diseases and would fear that I would have

the same diseases; or I would read of some one getting into trouble and would fear that I would have the same trouble and bring disgrace to the family. Everything I see seems to suggest something to me. These things seem real and have a deep meaning for me. At times it has been hard to decide about things; for instance, there might be two oranges on a plate and I would feel that I must decide to take the right one, or something might happen. I always wanted to do what was right and feared to do what was wrong. It might be best to end it all and so please the Lord. That's why I did what I did. (Refers to attempts at suicide.) After my operation for varicocele. I got around too quick and started the nerves to vibrating. I got scared and went to bed and more of the nerves got vibrating, which scared me worse than ever. Then I got up and around and every time I moved it started these nerves and I thought I couldn't do anything but wait until this got over. Then, my father's accident and death had a rather depressing effect on my mind, and my cousin, who was nursing my father, wanted me to go back with her to the sanitarium where she was employed. I didn't know whether to go or not, and the indecision pulled me right down. Well, I did pick up and go. When I got there I was very tired and tried to write my mother, but the question came up whether I ought to stay in business or not, and it took me a half hour to decide what to write, which tired me out completely, and I collapsed. I was at the sanitarium three months, and seemed to be well enough to go home when this happened." (Jumping from window.) In telling of this jump later, he said he heard a voice from Heaven and got right up, but thinking the devil was there, he made for the window and jumped to escape him. His recollections, however, are not clear. He realized that his beliefs and actions were not normal, and thought it best to keep himself occupied with work of some kind. The remainder of the mental examination showed the patient to be well oriented; no memory defect; and good calculation and retention.

Course: He ate poorly and the bowels were sluggish for the first four months of his stay at the hospital, and at one time he refused food entirely for one day on religious grounds. He then began to improve physically and mentally and gained thirty pounds. On admission, before going to the ward, he asked his uncle, who had come with him, for a pistol so that he might shoot himself. He seemed to have no further thoughts of suicide. He asked for

work in order to keep his mind occupied with other thoughts than those of self and fed the helpless patients on his ward for a time, later going to work in the laundry. After receiving a parole of the grounds he worked on the lawns, and finally took care of the chickens. He had much difficulty at first in deciding what to do and whatever he started to do, he feared was the wrong thing, and he would stop and do something else, only to drop that in turn. Referring to this tendency, he said: "As things presented themselves for me to do, I hesitated and doubted, but when the opportune time for doing them had passed they seemed as lifebuoys and would have kept me up if I had only seized hold upon them." Again he said: "Everything happened at the wrong time—a letter, a package of flowers, the bringing of my clothes to me, or anything else came just when I was engrossed with my thoughts, or just when they had reached a climax, so that the coming of these things rather increased my despair and made me wonder why things should happen in that way." In speaking of his first attempt to work, he said: "I worked mechanically while my attention was mostly on other things. My thoughts would reach a climax just as my work brought me to some particular garment or color, thoughts would be awakened by the sight of the garment or color—red and black bringing up evil thoughts, while white and blue brought up good thoughts, so that a sense of peace came over me if I happened to finish work with the colors of good. When told what to do and given explicit directions which I could follow to the letter, I did very well; but when left to my own judgment, I was at a standstill."

He derived a great deal of benefit from conversation with another patient who advised him not to try so hard to do the things he ought to do. He was exceedingly conscientious as instanced by the following occurrence: One morning he was asked if he had eaten a good breakfast and he answered that he had eaten all that came on his tray. He afterward remembered that he had left a few morsels. This troubled him till he was able to correct his former statement. He had been troubled with indigestion, but an analysis of the stomach contents showed no diseased condition. This relieved his mind, so that he began to eat anything he wished without thinking whether it would harm him or not. He applied this same principle to doing other things and found it was better to go ahead with confidence and to do things. This led at first to the other extreme, and he often worked busily at minor details, but soon

struck, as he said, "a happy medium" and did not become entangled with details. There was a deep religious strain throughout, and at one time he prayed before doing even such simple things as washing his face or combing his hair. He was undoubtedly praying for guidance. Said: "I found it better not to try to resist or get away from my troubles, but that by meeting them in a friendly way, they soon vanished. I saw that my troubles originated within, that I must meet them there, not struggle with environment."

Speaking of how he felt just before leaving the hospital, he said: "My troubles left me extremely self-conscious, and this gradually wore away, as does the embarrassment of an inexperienced person when first going into society. Finding myself at first, was like learning to ride a bicycle—slowly at first and afraid of running into every obstacle, but I soon found it was better to give little attention to the obstacles and to keep the eye on the way leading past them. Apprehension gave place to confidence, and self-consciousness to the joy and pleasure of living and being." He left the hospital on August 13, 1906, fourteen and a half months after admission, going home to the farm, where he and his brothers engaged in a successful chicken business. He was considered normal mentally and well and strong physically warranting his being discharged recovered.

He was recommitted to the hospital January 23, 1908, having been home for one and one-half years. He had remained well with an occasional melancholy day, showing very little doubt or hesitation. During the winter he had worked as a clerk for an uncle who owned a store and bicycle repair shop, but had considerable spare time.

On January 1st a cousin of whom he was very fond was taken ill with pneumonia and died. The uncle for whom he was working also became ill before the death of the cousin. On January 19th while returning from the funeral services with a relative he made an attempt to jump from a bridge into a deep stream, but was prevented with difficulty. That night about 10:30 he pretended to go to the toilet in his night shirt, but instead went to a nearby stream, jumped in, but swam out after he had been carried about 250 feet down stream and walked home. He seemed to throw off his anxiety after this and talked more freely and naturally than he had done for some time, but it was thought best to recommit him.

Course: He got along very well for a time, being given a parole of the grounds and cared for the hospital chickens. On the 14th of January he complained of nervousness and a feeling that he was slipping into his "old ruts." The next day he went to the superintendent's residence, entered unannounced by the front door and went into the dining room where he met one of the maids. He picked up a table knife and struck her on the breast, cutting through the clothing and inflicting a slight flesh wound. She ran into the kitchen and a male employee overpowered the patient as he attempted to follow her and brought him back to the ward without further trouble. When questioned about it, he said he wanted to kill her so that he might, as a murderer, die in the electric chair and thus prevent the loosening through him of evil influences, but the hand of God interfered." He also said he would have killed anyone, no matter whom. For the next two months he made numerous almost daily attacks on the attendants, hoping they would retaliate and "knock the devil out of him." He would turn somersaults frequently, saying that by so doing he kept himself from doing something worse. In March he began to quiet down and by April first seemed to be as well as before he attempted to kill the maid servant. He asked for work and made himself generally useful. He again began to act queerly in August 1908, refusing to eat and to wear any underwear. He said his thoughts ran on conflicting lines and he must fast to conquer himself. This condition was of short duration and was followed by another seemingly normal period.

In October he washed his hands and face more frequently than usual. He asked at this time to be transferred to Matteawan as he felt he might hurt some one through his giving way to his impulses to kill and he could be better guarded there. This was followed by another period of restlessness and frequent attacks on the attendants, and on other patients, one a dying man. He showed considerable diversity in his attacks, using chairs, urinals and his fists. Later he became more cunning and would coax an attendant to him and suddenly hit him or try to strangle him. He made as many as five attacks during one night when not in hot packs. He constantly feared that he was falling farther and farther into the clutches of the devil and might end up in hell. One night he claimed there was a flash of light across the ward that seemed to be directed near him. He began to "quiver" as he did during

the early part of his first attack and he felt as if the devil was coming into his body. The latter part of December, 1908, he developed a tubercular condition in the right hip. Even when he was quite ill he tried to attack the attendants. As the fever subsided he grew calmer and spent his time in reading, studying, and writing on an essay he wished to enter in a prize competition offered by the New York City Health Department on the production of pure milk. His hip was quite painful and an extension apparatus had been applied. On April 20, 1909, he began to worry again and explained by saying he had read a passage in the Bible where an angel had appeared to the Apostle Paul in prison, telling him to arise quickly. He took this as a message to himself to walk, but he did not obey it, and he feared he would never walk naturally, as the devil would interfere. This was followed by four weeks of doubts, fears, attempts to walk and numerous attacks on the attendants. He frequently asked to be transferred to Matteawan. He was then quiet and well behaved for a few weeks. During this time it was noticed that he would suddenly drop down on his knees while walking, that he would touch certain things before doing certain acts, and would retrace his steps several times when going for a drink. He became more restless and the old doubting returned, so that by the latter part of June he was as violent and assaultive as ever and continued in this condition for the next *six months*. There were intervals of a few days during this time when he was quiet and made no assaults. He learned that his essay on the production of pure milk had won second prize (a cow valued at \$200), but this had no calming effect on him. Writing to a friend at this time, he said: "I fear my life will be a failure. I get a little better and go a little way, and then get into trouble again. It is a wheel within a wheel, and the outer one seems to be standing still or going backward."

Soon after this, January, 1910, he became interested in basketry and after the last of the month he made no further attacks on attendants or patients. He became an expert basket weaver, especially with rattan, coloring the finished work in a very artistic manner. He also wrote several articles for agricultural magazines. He had a period of restlessness and doubt about the latter part of November and confessed to a desire to strike a certain patient, but he restrained himself and returned to his normal condition after a few days. He passed several restless nights in January, 1911, when he would

ask to be placed in a hot pack. On one occasion he masturbated and worried about it, fearing he had committed a great sin. At another time he got up during the night and went to the bed of a fellow patient and prayed for them both. He seemed to be afraid that he had general paresis and asked the doctor about it several times. When asked one day what he thought was the cause of his trouble, he said, referring to his position as gauger in the Internal Revenue Service, "I was holding a government position and it was against the best interests of my nature. That is where I failed—doing something that I ought not to do." In August (1911) he complained one morning of a "raw" feeling in his back, but did not become restless. He became very anxious to go out into the world again, but because of the suddenness and violence of his attacks, it was not thought best to permit him to do so.

In as brief an outline of this case as this is, it is quite impossible to present the symptoms of the case in other than a very superficial way. This patient has actually tried hundreds of times to kill other patients and the nurses and attendants in every possible way available. That he failed is only due to the fact that he was under close and constant observation both by day and by night. He attempted self-destruction at least three times. The decision to kill others, or to commit suicide *always came suddenly*. For more than a year prior to his discharge from the hospital he had ceased to be violent or suicidal, so far as we could judge, but we refused to discharge him because we believed that he was likely again to become dangerous to himself or others at any moment. The State Hospital Commission and the Medical Inspector were appealed to, but they refused to order his discharge. Finally, I advised him to obtain a writ of habeas corpus, which he did, and which was returnable before the Hon. A. S. Tompkins on April 15, 1912. The patient was sworn and told a very straightforward story of his psychosis. The hospital superintendent was also sworn and gave evidence in accordance with the facts as they appear in this summary. Justice Tompkins ordered his discharge at once.

A letter from his brother received October 16, 1912, states:

"In regard to my brother's mental condition I am glad to say that as far as we can see his mind is perfect. He has been gaining every day, both physically and mentally, and has not shown a single sign to cause us the least alarm. He has entirely thrown off his old trouble of hesitating and goes ahead as well as any one.

"About the work he has been doing it would be hard to enumerate all of it, as he is busy all the time. If it were not for his hip, which is gaining all the time, he could do a man's work anywhere on the farm. He tends the chickens and calves, milks from nine to fifteen cows twice a day, keeps records of every cow and crop besides doing a hundred other odd jobs like going to town, etc., that take a lot of time for some one to do. Of course, he had to begin slowly, but he has gained every day since coming home. His mind seems to be entirely taken up with the farm and he is as happy as a boy."

From both a medical and a legal point of view, were we justified in refusing to discharge this patient, or did we merit the reprimand for detaining him as implied by the court's action?



A PSYCHOLOGIC STUDY OF STEALING IN JUVENILE DELINQUENCY

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In the present paper no attempt will be made to consider the so-called benign types of ordinary stealing, as these are more or less conscious and purposeful acts common to many individuals of all ages. Nor will special emphasis be placed upon fanciful stealing such as the kleptomanias, where the objects stolen are often of highly symbolic significance such as studied originally by Krafft-Ebing,¹ and more recently by Stekel,² Albrecht,³ Riklin⁴ and Pfister⁵ as manifestations of neuroses and by Gross⁶ as a compulsive act in a manic depressive or by Chlumsky⁷ and Sommer⁸ in feeble-minded persons whose defects were either inherited or acquired. The few cases which will be reviewed here are confined to persons who have stolen money or other valuables without the ordinary patent motives of simple covetousness or revenge, and who often find themselves overcome by the temptation in face of the apparent knowledge that the act is wrong. Purely as an impulse the act is not so very dissimilar to that of fanciful kleptomania, nor is it often essentially different from the purposeful stealing of everyday occurrence as found in poorly inhibited individuals. On the whole one may say that the main characteristic of the persons here considered is stealing money and consciously committing other antisocial acts of a petty sort mainly as a consequence of having no well grounded sense of

¹ Krafft-Ebing, "Psychopathia Sexualis," 13th ed., 1907.

² Stekel, "Nervöse Angstzustände und deren Behandlung, 1908 and 1912.

³ Albrecht, "Zur Psychologie der Kleptomanie," Zentralbl. f. Psychoanalyse, etc., May, 1913.

⁴ Riklin, Centralblatt f. Psychoanalyse, 1911.

⁵ Pfister, "Die Psychoanalytische Methode," 1913.

⁶ Gross, "Das Freud'sche Ideogenitätsmoment und seine Bedeutung im manische-depressiven Irresein Kraepelins," Leipzig, 1907.

⁷ Chlumsky, Vierteljahrsschrift f. gerichtliche Medizin, 1892, Vol. IV.

⁸ Sommer, "Diagnostik der Geistesschwachheiten," Vienna, 1901.

property rights. Usually these individuals show predominantly many other poor adaptations to authority and law from earliest life and they appear unable to thoroughly grasp the importance of making the proper submission and compromise with parental discipline. I think it must be freely admitted by everyone that the whole problem of the cause of stealing as an antisocial trait in juvenile delinquency is still in a chaotic state. There are some investigators who look for the root of these trends entirely in the makeup of the youth himself; they count him either a moron, a subinhibited mental defective, or a constitutional psychopathic inferior, whatever that term may mean. Others greatly favor the idea that the parents and home environment are largely responsible for the development, if not for the actual implantation of the unruly or immoral traits of character. Usually neither group neglects to thoroughly indict the family stock for the delinquencies found. They find in the family history certain vague though pertinent psychic and neuropathic traits which, failing to discover a proper cause for the delinquency *per se* in the life history of the youth or his immediate environment, they apparently employ the heredity factor as a last resort. No sooner, however, does one undertake to investigate a series of such youths than one is impressed when all the above views are requisitioned to interpret juvenile delinquency, that there are many more subtle forces at work than those usually obvious on the surface. Some of these obscure causes may be illustrated.

Apropos to our present study are Healy's⁹ investigations of mental conflicts and repressions in delinquent children. He ascribes the acts of stealing money to sex delinquency and the incomplete mastery of the latter. For instance, one of his cases, that of a boy, was taken from his home environment and evil companions and was cured of his delinquency. Apparently Healy's case was a conversion or substitutive mechanism of lying and stealing, the result of unsuccessful attempts to repress the sexual trends. In a long series Healy found surprisingly often concealed sexual conflict as well as defects in parental discipline and lack of proper filial-parental relations. He also cites several cases in which mental conflict grew out of the child's discovery from outside sources that a previously supposed parent was not really such. However, he does not specifically mention cases in which antagonism to the father and desire for

⁹ Healy, "The Individual Delinquent," 1915.

childish revenge upon this parent was a cause for stealing as shown in my cases.

A boy of fifteen was recently seen by me at the request of one of the visiting teachers of the Board of Education. He played truant from school and stole, and had done so for several years, in fact ever since his father deserted the family. The mother herself had become embittered because of her marital troubles and went to live with her mother. Soon after the boy, then eleven years old, stole so much from his grandmother and her immediate family that he and his mother had to go elsewhere. The boy's great fault was in concealing his thoughts and various daily activities from the grown people, and he was always uncomfortable in the latter's presence. In fact he was most secretive in any inquiry about his whole life. After the more obvious faults in the home and school were set right and the boy permitted certain liberties and pleasures, his conduct improved; yet he did not obtain a good vigorous activity or proper adaptation to parental authority. He still lied and was sly. When made to join the church choir he stole from the church, and when forced to attend a special school he stole from that. A frank talk with this boy showed that he failed to make any good compromise with discipline and authority. Unfortunately, with only a partial reconstruction of habits in progress, the boy was lost to view. It was learned later, however, that he had never adjusted himself to the father's authority; when the father deserted the family the boy failed to adjust himself to his mother, who beat the boy even more unmercifully than his father. Finally the grandmother treated him even more severely, and he stole and otherwise showed dilapidation in conduct in her home until he and his mother were obliged to leave. The boy apparently was not consciously clever enough to know that his stealing brought about the separation.

A boy of ten who was the recipient of whippings administered by his father had sharp conflicts and first began to steal from the father after punishments at eight years. Gradually he grew sullen and revengeful. He then began to steal from the proprietor of the delicatessen store where he worked. The proprietor undertook severe discipline also. At ten he stole from a teacher who was strict with him and whom he specially disliked. In this instance the conflict with authority was all quite conscious and easily reprieved by adjusting the home and school life.

The next instance is one of incorrigibility and stealing in a thirteen-year-old girl, much like a series of cases reported by Dr. Healy. She began her disobedience and stealing at eleven, soon after a playmate tried to induce her to go to the parks with boys and get money from such associations. She refused, yet wished very much to have the money to spend which her evil playmate displayed. She underwent moral torment in this mental conflict, but finally repressed it and became delinquent and stole only when she failed to be promoted in her class. She then began to take small sums of money whenever she came across them. The child says, "Father, mother and teacher say 'Don't,' 'You mustn't,' and then something inside tells me to be bad and steal. If I wanted to I could be the brightest girl in school. I took things probably once a week, about as often as the other girls went to the parks with boys, but I never went with the boys."

A case in which the causes for the delinquency were more complicated and seemed in part due to inability to properly adjust to the revolt at puberty, may be cited in outline.

An only child, now nineteen years old, unexpectedly underwent an entire change of personality at puberty. Previously he had been sweet tempered, obedient and affectionate. At fourteen he "flared up" and declared he would no longer attend Sunday school. Immediately after this "astonishing rebellion" he insisted more or less on having his own way, and became smart and cocky. He not only revolted against parental authority, but behaved in the same way toward the head master at private school. Induced to join the church he began to lie, refused to study, and at seventeen was incorrigible and sly. He was expelled from school for theft. When taken to task for his misconduct he was indifferent, "as though possessed of no moral sense." When asked the reason why he stole he said the other boys had lots of money to go out with the girls but he hadn't, and one could not properly entertain them without money. He then insisted upon leaving preparatory school and going west, even forfeiting prospects of an inheritance by so doing. He was finally allowed to go west, and was apparently doing fairly well at an inferior occupation when he was again placed under the guidance of church influences, and he again became dissipated and negligent of his personal and social obligations. He lost his job and drifted about from one position to another, losing them largely because of carelessness and indifference to his work. The minister

and other persons connected with the church who had been looking after his welfare while away from home, washed their hands of all responsibility, and soon after this he "braced up" and got a job of his own finding. He now writes his parents that he has learned his lesson, is willing to come home and settle down to work and abide by the regulations of home and school, adding that he is *willing to do just exactly as father directs*.

Here we find the first inability to adapt to the parental authority at being forced to go to church and when he was forced further to join the latter his moral dilapidation was quite complete; and though he did fairly well "out west," he broke down again when the guidance of the church was reintroduced. Probably the moral inhibition superadded to the parental direction was the main cause for breaking down his good social conduct. Apparently this case is a common one of revolt at puberty. The very closeness of filial-paternal attachment in early childhood made the revolt at puberty the more violent. When the revolt was coupled with sexual repression and difficult adaptation to this social and antisocial demand, he extended his dilapidation of conduct to lying and stealing as well as incorrigibility and truancy. The final outcome is not yet, although the boy seems to be on the road to making a proper adjustment, a compromise with the home authority, and has expressed his willingness to abide by the rules of society. It may be added that this young man has very recently entered a noncombatant part of the governmental activities, but shows still an incomplete social adjustment, though he has, so far as known, stolen nothing for the past two years.

One of my cases, a woman about twenty-four years of age, seems to be analogous to a case reported by Dr. Glueck of a latent homosexual complex.¹⁰ Again, as in the previous instances, the final analysis can not yet be supplied. The case, however, is worthy of more extended study, which will be attempted. The girl was a fairly clever paid worker in a social settlement. Her appearance was pleasing, her work in general good, and everybody liked her. She stole only from women, and those, too, were her best friends. So gracious was she in her conduct in spite of her peculations that not only did she continue to be very fond of her victims, but they reciprocated her affections. In consequence inquiry had to

¹⁰ Glueck, "Studies in Forensic Psychiatry," p. 239.

be undertaken with greatest delicacy lest all parties concerned might have their "feelings" hurt. It was only after a perfectly impossible series of thefts that all agreed to a partial psychological investigation. The girl's nurse reported that she showed no special peculiarities in childhood, learned easily and stood high in her studies. Her education was interrupted at the end of her first year at college by dismissal on account of theft. She had a short, benign attack of chorea at puberty. As a young girl she had normal powers of observation and concentration. She was quick and impulsive and was said to have been too ambitious to attain physical and mental vigor for her physical endurance. She was practical, active and serious minded, bashful in the presence of men, but friendly and affectionate with women. She was sympathetic, kindhearted and generous with girls. She resembled her father in physique and her mother in temperament; for the latter she has always shown decided preference. In general she had a keen moral sense. She always showed emotion when detected in taking money, putting her arms about her victim and crying in apparent genuine concern. She spoke frankly about her thefts from her "dearest friends," both at college and in business associations. She claimed to have stolen first without cause, but soon claimed that it was really to help her invalid sister. Later thefts lacked this motive; in fact she now has an income from inherited property as well as drawing a salary, and is at a loss to account for her thefts. She volunteers the statement, "I never have cared anything about men, but am deeply interested in girls. One college friend from whom I took small sums was like my business associate, of whom I am now very fond." When pressed rather closely she says, "Yes, I suppose these girl friends do have great influence over me. I feel nearer to them than to my mother." This last was said with the emotional stress of one speaking of affections stronger than ordinary friendship.¹¹

¹¹ It is interesting to see what becomes of these cases under a system of wise care and attention by lay individuals. The following letter recently received explains in part, and is written by a woman conducting a girls' school in the country:

"On visiting New York just at the time of the difficulty this girl had experienced, she told me it was her intention to 'drop out of sight,' this after her detailed account of her trouble. She decided to return with me, and for three months my anxiety for her was great. I kept her with

I think one may safely infer when the act of stealing occurs without apparent motive, at least sufficient for the offense as ordinarily found, that it is probably unconsciously conditioned either upon a defect in adaptation to authority, to sexual conflict and repression at puberty, or it is a vicious homosexual theft substitution for the offender's own sex, as in this last instance. The line of therapeutic procedure is obvious in all the foregoing, *i.e.*, explanation by analysis, conscious guidance, and a sympathetic after-care and training. The enormous demand and difficulty of sublimation in the homosexual victim of the theft habit, makes correction extremely difficult. In fact it is to be doubted whether the homosexual is ever able to sublimate sufficiently to keep him from social conflicts, or from a neurosis more or less dominant throughout his life. His task of adaptation must be so enormous that his life is destined never to be a contented or happy one.

I cannot too forcibly insist upon the importance of studying the child's *adaptation to parental authority* when delinquency and stealing begin at a very tender age, as a basis for adjustment to all law and order in the future life of the individual. An example which exquisitely illustrates my thesis is the following, given at length.

The case is a rather common one in its clinical expression, and is that of a young man in middle adolescence. He had a fairly normal physical and mental development up to five years of age, when he more or less abruptly began to lie and practice deceit. Soon he began to take all sorts of things which did not belong to

me continually, never alluding to her life in New York and keeping her confidence strictly. Feeling that she must have some interest in something radically new, I arranged with a teacher at one of the physical culture schools to have her take a course of study. She took the two years' course and I arranged that she apply the knowledge she had obtained in our own school. All the time for more than two years I kept in constant touch with her, never permitting her to be far from me and giving her all the love and care I would my own daughter. Away from her father, she has developed honor, established a habit of truthfulness, and is now a trusted helper."

Undoubtedly the sublimation, possibly a homosexual transfer, seems to be working satisfactorily. However, a more genetic rationalization of the real unconscious motive should be given. Finally, one may say in this case that under ordinary conditions perhaps this girl will not break down into her old delinquencies.

him, knives, scissors, thimbles, and various objects he found lying about. He had been neither a sensitive nor a passionate tempered child in infancy and as he grew up he was quite obedient to the home discipline under ordinary circumstances. The father tried to correct his lying and stealing by talking to him, but, in the father's words, "He did not seem to grasp the full import of these talks nor did he seem to realize that he could not have anything he wanted whether it was his or not." After the father's talks and mild physical punishments the boy was "terribly sorry," and would show no further misconduct for weeks at a time, when he would relapse to his former misbehavior. The parents hoped he would "grow out of it," and thought his unusually rapid growth had something to do with his moral delinquencies. At nine years he was nearly five feet four in height. From five to nine years of age he had been a fair student at school, but his studiousness had gradually decreased until his main interest in school life was in athletics. He became hyperactive and wanted to be constantly on the move. He had little patience with his teachers and practiced all the quieter forms of deceit and chicanery of the poor student. His growth continued to be rapid, and at puberty he was nearly six feet in height. His lying and thieving propensities grew *pari passu* with his years, and as he grew older he coveted things of more importance. When his delinquencies were found out he appeared as remorseful as ever. His moral defects clouded the activities of his daily life, but little until puberty; he then began to revolt at the school discipline, although outwardly he appeared to be a fairly well behaved boy. He was changed from the grammar school, where he had grown quite unruly under a woman teacher, to a private school with a capable male instructor, but made little change in deportment. He stood well with his boy companions in spite of the fact that he helped himself to their wearing apparel and other personal belongings; no special deceit was resorted to in these misappropriations. When taken to task by the head master for a larger theft he played truant and tried to lie out of it. Once he fooled both his parents and the head master for a week's nonattendance at school. He steadily lost ground in his classes and was put back, but these inabilityes to progress seemed only to lessen his ardor for a school career. Otherwise his hopes and ambitions in life were much like those of other boys of his age and station. At fourteen when rather severely taken to task he ran away from home, leaving a "touching appeal" to

explain his disappearance. He was soon located in a neighboring city and brought back home, apparently quite willingly. Soon after this episode he had an attack of chicken pox which caused him to lose six weeks at school. While convalescing he had two fainting attacks (probably due to anemia); the restrictions entailed in caring for his full restoration to health caused him to fail in his examinations although he was warned that this might occur. A few days after this failure in promotion he eloped from school, borrowed a horse, and, dressed in a sort of cowboy wild west outfit, wandered away in the country. He took no special pains to conceal his itinerary or his whereabouts. When trailed and found three days later, he was living in the wilds, had a tent and was paying, begging or stealing for his necessary articles of food. He had borrowed the horse for a day, and when it was not returned search led to the boy's apprehension. He seemed not to recognize the gravity of his failure to return the horse, and acted rather callous and unfeeling about the whole matter. Only when pressed rather sharply as to the details of this escapade did he lie, a rather common reaction when he was cornered.

The foregoing brief summary was duly verified from several sources at the first examination. The boy was found to be a great hulking fellow, much in advance of his years. Although restive under examination, he was apparently frank but rather affectless in going over the history of his delinquencies. His eyes, usually shifty, would light up with boyish enthusiasm as he unfolded a rather plausible scheme for his future life and ambitions, which was to go to Texas and take up ranch life under the direction of an old friend of the family.

Physical examination was completely negative. Mental tests showed this youth to be clever and resourceful; he had a logical memory with no mental defect; he was about three years in arrears in school studies, but in advance of his age in performance tests. His lack of interest in school made his attention and power for sustained concentration on studies poor. He had a very clever ability to use tools and was quite an expert garage man, and drove the family automobile. He was self-reliant. He easily learned to swim, dance, and shoot. He had the faculty of making many friends, but was not overparticular in his choice of companions. Persons engaged in outdoor activities he chose to cultivate particularly. He was egotistical and wanted the spotlight on all his

athletic acquirements. Even as a young child he wanted his own way, and used to tease to get it. As a boy under five years of age, after listening to exciting narratives of adventure, he would be restless in sleep, had nightmare, dreamed of Indians and of being chased by snakes, etc., but for several years he has had no remembered dreams and sleeps "like a log."

On being asked how he handled the home discipline, the boy remarked, "When things didn't go well, and they sort of knocked me down and out, I frequently thought of running away and earning my own living. I took but one flight, and I enjoyed it." When he is plotting something, or has done something he ought not to, he talks very fast and volubly, sparring for time to find a way out. He chiefly craved the sympathy of his mother, his sister and the old family cook; the latter, especially, gave him money for his various escapades as a child when the father objected.

A digest of the opinions of the head master of a preparatory school regarding this boy a few days after my preliminary examination of him is as follows: "I am very sorry to say that the boy failed in his entrance examinations pretty hopelessly in both algebra and English. We did not expect much, of course, on the technical written papers; his entrance examinations consisted, therefore, principally of an effort to determine whether he was ready to buckle down to good, severe work. I am sorry he did not pass this test either. He manifested considerable interest in stock, which is a subject for our seniors only, and said frankly that he would like to ride a horse, but didn't care much about wielding a hoe, and that he hated chickens. I told him the question was whether he wanted to take off his coat, and get down with the boys of the first class, who were younger than he, and really get a thorough foundation and go right through the whole four years of our agricultural course. He seemed to feel a little hurt, that I thought he was unwilling to hustle; but the impression he made upon all of us was rather that of a somewhat elegant dilettante. He hired an automobile to bring him over the short distance from the station, and in general seemed somewhat of a kid-glove farmer. However, we felt that he was something of a good sport in that if he got roused he might put the work through rather than quit. At the same time, he showed no real or vital interest to do anything except the small part of our course that happened to be of interest to him. As there were enough boys to fill up our enrollment who did very

much better on our technical examinations and showed a more willing spirit, we felt, naturally, we ought to take them and reject this boy."

A short time after this poor showing, the boy was placed in my training camp to be under close observation. He made good contact with the other boys, but frequently took their ties and canes without asking permission. He neglected his studies and crafts work to talk and walk with girls at a neighboring hotel, but while with them his deportment was quite correct, although somewhat "rattlebrained" and "kid like."

After the first two weeks of minor delinquencies at the club camp, he took on two occasions a fair sum of money from the clothes of some of the summer guests near the camp. It is interesting to note the final confession the boy made of his temptation and final downfall in the theft. "For days I had been thinking about money, especially at night when I would go to bed. I thought of all the good things I could get. It was all selfish on my part. I wanted to purchase candy, pipes and cigarettes, and neckties for myself. For several nights I thought this all over. I thought that the bath houses would be pretty easy and then I thought how wrong this way, and for a couple of nights I put it out of my head and then it began again, for no particular reason that I know of, because I did have some money with me. I went to the bath house one day and saw the door open and took the money I found in some clothes there. Then I saw that I got away with this, and went in again on another day and took more money. At first I would see the door open and then walk away because I would think how wrong it all was, and then something would come over me, like a wave, and I would then go in and take the money. I never thought of the legal consequences and don't think I ever imagined I would get caught. I had no antagonism against the men I took the money from, in fact I didn't know one of them at all. I thought if accused I would bluff it out, and I tried that but it failed; then I felt sorry and ashamed. I don't think the idea of spending money on the girls had anything to do with it, it was all for myself." While the boy gave this information frankly, and with downcast eyes, he did not seem to appreciate the seriousness of his offense at all.

After the foregoing episode the whole series of delinquencies were gone over in minute detail, especial inquiry being made upon the first remembered act at five years of age. It was difficult to get him to submit to a painstaking scrutiny of his early life at

first. Finally, the acts of stealing led to the early conflicts with the father about punishments for disobedience and lying. At the outset of his initial acts of disobedience he argued with the father regarding the injustice of the punishments, but later when silenced by the father he grew sullen and had a "hang dog" expression. Still later, after other acts when requested to explain he refused to make any defense, excuse or apology. As he said, "I thought I had best take the punishment coming to me and get the matter over as soon as possible, which I did." Further association upon his acts and the rights of property in particular brought out the statement, "Why, you see when I was just a little kid I got the idea that all the property in the house as well as everywhere else belonged to father. If he didn't actually own it, it was subject to his control or disposal." It was shown further that even the more intimate belongings of the mother, such as scissors, rings, thimbles, etc., were really the father's and that when he took things he felt that his father would have to pay for or replace them. When he received punishment he never went to the mother for consolation, but to the old colored cook who had been in the family employ for so long that she had taken the family name. As a child he went to her for sweets and all sorts of special favors which she was only too glad to furnish. The boy was the oldest and for a long time the only child in the family. Occasionally the cook sided against the boy and agreed that the father's discipline was right, and after a long talk and some "sweet blandishments" he became reconciled (outwardly) to the father's punishments. Further it was shown that the boy practically took money or other property solely from the male sex. In one instance he stole a half dollar from the cook. When taxed with this apparent ingratitude the boy hastily added: "But I knew father would have to pay her back and a little more for all her kindness and pains in bringing me up. You see, I sort of looked upon the cook as my mother in spite of her being colored."

As he grew up his rebellion against authority was shown to be really against the father. He said: "Some of the people who had authority over me at various times looked like father, especially the school master and Mr. X; both treated me very nice and acted just like a father to me, and I took the most from them. After I took the money from Mr. X, I felt as though he had done something against me, instead of the reverse, and I never wanted to go with

him after that." From the age when he first began to steal and lie, he used to say he didn't want to be like the father, did not want to follow his profession, nor even engage in indoor work as the father did. He then began to plan to go away to lead a "wild, carefree life, away from all restraint." The man from whom he last took money was one whose son was also under strict authority, a fact which may be taken for what it is worth.

The possibility of there being a latent father antagonism was entirely overlooked at first, inasmuch as the father and son are at present the best of friends and "pals." They shoot and swim and go off on vacations together. Even the day after mental analysis had been fairly gone into, our patient showed me a letter to his father pleading for him to give him the right to go west at once, and ended with a playful threat that there were many ways to get money and a chance to go if the father should refuse.

Associated with and following the foregoing analysis on the stealing and lying impulses, the youth was given ethical talks covering every phase of his previous misconducts and their consequences. Gradually an entire change in attitude and character took place. Now, several months after the analytical and training treatment, he has paid up all his old debts and has reimbursed his father for extra outlays in his behalf. He has voluntarily given up a desire to go west, has taken on a tutor and is working hard to enter a technical school from which his father was graduated, and is no longer unconcerned or careless in his daily conduct at home.

In brief, then, we have here a boy who at the early age of five rather abruptly came into conflict with paternal discipline, although the latter seemed to be not unnaturally or too severely administered. In sequence to this rebellion which was both suppressed and repressed, he developed a keen antagonism to the father and soon after began to lie and steal and assume other unethical traits of character. The habit of stealing continued until advanced adolescence, until corrective measures of training, away from the home environment, plus mental analysis, were applied. The latter covered many interviews over a period of three months. At first the boy met the analysis with affectless indifference, but so soon as the real difficulty of defective adaptation to the father's authority as a child was made manifest and its later conscious contrast of seeming rapport with the father, the emotional reaction was intense. The analysis was never truly psychoanalytic, but rather that of an

intensive review of the foreconscious. The investigation was, however, much more thorough and dynamic than that ordinarily given to such conduct disorders. Here as in other instances one is often impressed that the defective primary instinct acts as a sort of latent psychic infection which in time as new adaptations in development are encountered undergoes many transformations both in degree and kind. For example, the boy began with disobedience, then lying when hard pressed; next, he stole to get square with the father. Later we find the school authority seemed to induce inattention to study and corresponding increase of desire to keep up and enlarge the chances for sport and play. The latter in turn necessitated more lying and deceit. Finally the previous defective adaptations engendered truancy and insubordination which passed over to vagabondage. Thus we see the mental conflict to correct the character faults was almost over. The don't care and affectless attitude of the incorrigible delinquent and final crystallization of the antisocial recidivist was about to be adopted when the correction was undertaken.

A word might be said regarding this boy's antecedents. The maternal grandfather left his family and led an antisocial life. The mother seemed inept in handling children and rather slow in delicate appreciation of her duties and obligations in rearing them. Least of all did she understand wayward and headstrong boys. Her general attitude toward the inculcation of nursery ethics was poor and colorless. This son therefore easily found an early and warm attachment to his foster mother, the cook. The father left nothing wanting in his parental attitude toward the boy save an unusually lively temper and a quick and unsteady control over him, which seemed to make for the boy's ready belief that his father's talks were either bluffs or threatened punishment or that he was unjust in overawing the boy's attempts to set matters right in explanations. It may be of interest that the siblings of the boy himself were most normal physically and mentally and there was never the slightest moral difficulty with them. I may add at this point that there were no very serious sex delinquencies in this boy.

It may not be illogical to argue that from resistance to authority to theft, when found in the developing child, is not such a far cry when we look at the subject from the child, and not the adult, level. For instance, sufficient data is at hand for us to state that in the infant mind one of the earliest conceptions of reality is impingement of its desires by the parent. The magic signals of

crying and gestures do not move the parent to gratify the child's wish. In the persistence of this feeling of unrequited longing, no doubt the child begins to scrutinize with continued wonder the reason for noncompliance on the part of the parent, and more or less rapidly interprets it in terms of selfishness or the self-satisfied possession of things and powers which enables that person to calmly resist all the child's frantic demands. Possibly it first sees that the very bigness of the parent lends strength. Soon, however, the personal belongings are also taken as symbols of the parent's potential self-sufficiency. One of the first acts of imitation the growing child adopts is to deck himself out in the parent's wearing apparel. Thus equipped, it is the child's happiest concern to play the rôle of the parent, especially its authority vesture, tyrannical or beneficent, whichever it may be. Balked by reality, the child's impulses are frequently gratified, perhaps secretly, in his play in the attic or barn. It is not a far step to the further exercising of power for the child's satisfaction in gratifying its personal appetite, in stealing fruits or committing forbidden excesses which he believes the parent has unrestrained opportunities to enjoy. If the child's lust for pleasure is sufficiently overmastering, the seizing of the parental power and privilege advances to new forms of covetousness and conquest, which may be that of possessing the magic symbol, money. It soon finds that money is really the easiest method of getting what it wants rather than barter as in the manner of simple and primitive exchange. What is easier to imagine than that the unrestrained or poorly adjusted childish demand, perhaps repressed by the strict discipline of the parent, strives in some devious way to lay hold of the actual coveted possessions of the supposed favored one, the parent, who he believes takes pleasure in, or at least is indifferent, to the child's own ungratified longings?

In conclusion we may say that even when the child's defective adaptation to authority and property rights are made clear that there are probably other and still more genetic reasons for this early conflict, namely, the latent infantile desire to usurp the place of the father or the mother in all its possible prerogatives. One need not neglect the study of the adult life of criminals, and especially the causes for recidivism, for even there the adult pattern of the antisocial acts will probably be found to embrace in greater part the distorted mechanism of the primary instincts of early life. I but

wish to add my suggestions to those hopefully made by Healy and Glueck, that the intensive study of antisocial behavior of the juvenile delinquent and especially in earliest childhood may enable us to correct not a few such faults before a fixed formation of habits and character has rendered the offender so hopeless for reconstruction in adult life.

A NEUROPSYCHIATRIC PILGRIMAGE¹

BY SMITH ELY JELLIFFE, M.D., PH.D.

NEW YORK CITY

As I hope to bring to you this evening some observations of personalities and of conditions concerning the work going on in Europe in neuropsychiatry following the war, I hope to be able to avoid that criticism once expressed by one of delicate sensibilities who, on observing a certain *prima donna*, remarked "There were too little clothes and too much Mary." So if in my narrative of my pilgrimage to the intellectual shrines of Europe there is too little shrine and too much Jelliffe, I feel assured I have at least crossed my fingers by notifying you of the possibilities of the situation.

In medicolegal parlance it is customary, however, for the expert to qualify and though in this audience I feel certain that opposing counsel will grant my qualifications, yet one's "too much Mary" would regret leaving the stage without saying who she was.

In 1890-1891, a year after my graduation in medicine, I made my first European pilgrimage. It was a student's *Wanderjahre*, a year filled with sowing, the harvests from which are still ripening. I may opportunely speak of certain comparisons of that thirty years ago student year, spent in Vienna, Berlin, Paris and London. Ten long, good years of grind went by before my next trip—this practically was confined to Norway, Sweden, Denmark and the Hanseatic towns; the most striking events of which were the leprosy hospitals at Christiania and the various botanical gardens, notably that of Linnaeus at Upsala. I laid my wreath upon his grave and felt that my botanical enthusiasms of some fifteen years development were turning into neuropsychiatric channels. Since that year, however, 1900 and the year 1910, when I spent another complete year in Berlin and Paris—I had visited Europe, neurologically speaking,

¹ A condensation of two illustrated talks given before the New York Psychiatric Society and the New York Neurological Society. In the first talk, illustrated by some fifty lantern slides, an informal survey of European neuropsychiatry was given. In the second talk particular attention was devoted to Dutch workers and their work.

five times. In these ten years I had visited now one, now another neurological or psychiatric shrine. In one I did the clinics and asylums of London, Holland, Belgium and of Northern France. Later, with Pearce Bailey, there was a semester with Kraepelin at Munich. Still later, this time with Drs. Wm. A. White and Menas S. Gregory, we explored the psychiatric clinics of Italy from Milan to Naples, after we had gone through a semester with Kraepelin in Munich. Though this was in 1906, seventeen years ago, I can still vividly recall the asylum in Rome just under the shadows of St. Peter's, where in two wards at least eighty patients were strapped to their beds. Such an uproar! Bedlam of the Middle Ages must have had a thriving business, for as you know it was a custom in those days to issue tickets of admission at a shilling a head, six pence for children, and show them the animals. This superstitious awe, and fear, born of folklore tradition concerning the mentally sick, is too widespread even at the present day. My first visit to Bedlam was in 1891.

But I must hasten. My last visit to Europe had been in 1914 just before the war. This was short and was chiefly confined to the castles of the Loire; of medicine there was little, of architecture and romance much. Still the new Pitié Hospital was just going up and Babinski's new clinic outlined, and the nurses' training school at the Salpêtrière just being erected. This latter building has served as a meeting place of the many neurological congresses held after the war. I said to myself, at last, France has commenced to modernize its old buildings! And then came the war. In June of 1914, the wistarias of Aizy le Rideau were never more lovely, and the quiet waters of the Cher flowed under the chateau of Chenonceaux without a murmur of the gathering storm, and no whisper of the future came to my ears in Paris as I left for America in July of that eventful year.

In May of 1921, seven years later, it was my privilege to revisit many of my old haunts and to attempt to pick up the threads that had been so rudely broken. Some never could be resumed. Fortunately new ones might be taken up, and so I shall try to bring before your eyes some of the well-known faces, no more to be seen—many others, still actively working in the branch of medicine, the common interest in which brings us here, and certain suggestive notions that lay along my roadway. Come travel with me in imagination and bear with my desultory remarks. In so far as I feel that we

are *en famille*, I am certain that if certain gossip be uttered you will all forget it.

I cannot go over the entire list of the losses of French neurological science during the war period, which in general is covered between 1914 and 1921, but certain very important gaps have been made. France lost at least three of its greatest men. Its sister state, Belgium, also suffered an irreparable loss. They were all older men and each had done his life work. Each stood preëminent in his sphere. Dejerine was perhaps the greatest figure of them all. I regarded him as my chief as I worked patiently with his "Anatomie" for six months in 1910 endeavoring to make good the inroads on a memory made rusty by too steady and prolonged an application to nest building and the business of bread and butter getting and when I came to my salad period it was a delight to turn to Dejerine and Madame Dejerine to make good, if possible, these losses. I need not remind this audience what Dejerine means to neurological science. His early "Famille Neuropathique," his "Familial Myopathy"—these are milestones in neurological progress. With Thomas, his "Maladies de la Moelle," his classic, the "Anatomie," in conjunction with Mme. Dejerine, and his final large volume on "Semiologie"—these are but a few of his standard performances which have enriched neurological science. I would like to speak of his personal charm, his bonhomie, his rare skill and tact in handling the neurotic patients according to his view of their disturbed emotional situations; and my own modest effort in aiding the march of psychotherapeutic progress in America through my translation of his work on psychotherapy, I mention as "a part of Mary."

I shall return to Dejerine and more particularly to Mme. Dejerine and their pupils in a moment, for I must allude to another lost leader—this time a native of Bordeaux, who has been one of the dominating figures in French psychiatry for many years—Régis. His name is familiar to many of the older men in psychiatry, as it will be recalled that his work on mental diseases was translated and published in Utica by the New York State's Hospital Press. He was a fearless and strong man. I can recall a most interesting meeting with him at Nantes. He was one of the first to be interested in psychoanalysis, and with his pupil, and now his successor, Hesnard, in Bordeaux, gave us their well-known criticism of the Freudian principles. To our way of thinking this is quite academic and a criticism of words and definitions and not founded on actual experi-

ence. In a three hour conversation with Hesnard at the Grand Hotel in Paris last June I learned that neither Régis nor Hesnard had really analyzed a single patient at the time the book was written. Fortunately this gap has been made good for Hesnard has now become an active leader in the psychoanalytic movement in France.

In the early years of the war the death of Van Gehuchten made all of us who had known this gentle soul, mourn. His life work in Louvain where I first met him in 1904 had been destroyed in that mad rush of war and he himself could not survive it. We can recall the generous help that sprang from Oxford to endeavor to give him something for which to live. But the blow was too deep. He could not survive an appendix operation. One can read through this attack of appendicitis and its fatal termination much more than a mere surgical case report. But of this we cannot stop to inquire.

Our next immortal, Grasset, I first met in Montpellier many years ago. He showed me the red gown and other relics of Rabelais still guarded there at the University. He was a very remarkable neurologist and the beginners of today may profit from Grasset and Rauzier's "*Traité de Neurologie*," two big fat books of many editions, crowded with data and quite the equal in many respects of Oppenheim's classic.

Having paid but short respects to the dead let us return to the primary object of my visit, namely, the annual reunion of the Paris Neurological Society—1920 had seen the first general reassemblage of that body since 1914.

This leads our steps to that great Mecca of French neurology, the "Salpêtrière." Here at its gray and imposing portals, through which a constant stream is pouring, we see the statue of the immortal Charcot. As we pass through we notice court after court, made by the intersection of many three-story gray stone edifices. This, I may tell the uninitiated, is practically a city poorhouse for indigent and invalided women and it has its counterpart for men in the "Bicêtre," lying in a different part of the city. But it is more than just a poorhouse; it is in reality an enormous storehouse of a great variety of human ills. Here for many generations neurology and psychiatry have drunk deep of knowledge, reaching an acme in the genius of Charcot, towards whose clinic I would first direct your attention. It was here that he worked. Raymond, his successor, carried on, feebly perhaps, in view of his predecessor's brilliancy—and whose election is reputed to have been the cause of so bitter a disappoint-

ment to the brilliant Dejerine that he had a severe depression and retired to the Bernese Oberland where Dubois' sympathy and insight worked a cure and Dejerine carried on, brilliantly, and finally reached the acme of his ambition. At Dejerine's death in 1918, Pierre Marie succeeded to the professorship in neurology, and it is to his courtesy I am able to show you an intimate glimpse of the Charcot library and collections housed in the building in which the clinical work is carried on.²

This audience needs no reminder of the neurological activities of Pierre Marie. He is personally known to many of you for even in the early days we all made that wearisome journey to Villejuif on the outskirts of Paris to visit his wards in that brother almshouse to La Salpêtrière, Le Bicêtre. Here he was particularly cordial to American students of neurology and was eager to learn about the younger men who were coming up with us. Here at Bicêtre also, or just outside of its walls, Bourneville had his great service of feeble-minded and epileptic and it was a red letter day the first I spent at Bicêtre with Bourneville and Pierre Marie. Even in those earlier days, for I now speak of the year 1904, it was a rare treat to follow Marie's flashing eye and quick interest as he would point out minor anomalies of structure. He had a *flair* for noting slight variations of all kinds. Shape and size and motion, the quality and texture of the skin and hair, these and innumerable other small characteristics caught his eye and his curiosity immediately ran after their fundamental causative factors. It was thus he spotted acromegaly, and his neurotic hypertrophies, and a host of anomalies of structure and function. He stands out as a dominant figure in French neurology.

One of the objects of my present pilgrimage was to attend the annual reunion of the French Neurological Society. The year 1921 marked the second of these reunions where were now gathered most of the notable French neurologists with a sprinkling of foreign delegates.

Wertheim Salomonson of Amsterdam, Karl Petrén of Lund,

² Dr. Jelliffe here showed lantern slides of Dejerine, Régis, Grasset, Van Gehuchten, and of the Salpêtrière, showing the following views: Main gate; Charot monument; Charcot clinic building; Charcot pathological laboratory; private examination room; portrait; Charcot library; infirmary; Dejerine, psychotherapy.

A. Wimmer of Copenhagen, V. Christianson of Copenhagen, Camillo Negro of Turin and a number of others.

Since this meeting and the delivering of this talk Dupré, professor of psychiatry, has died. He was the successor of Gilbert Ballet and was a fascinating personality. I remember first meeting him at Nantes where, if my memory does not flatter me, I routed him in a discussion on dementia precox chiefly through my acquaintance with the work of Morel whose "*démence précoce*" he acknowledged was better known to me, an American, than to him, a Frenchman. He told it as a good joke on himself.

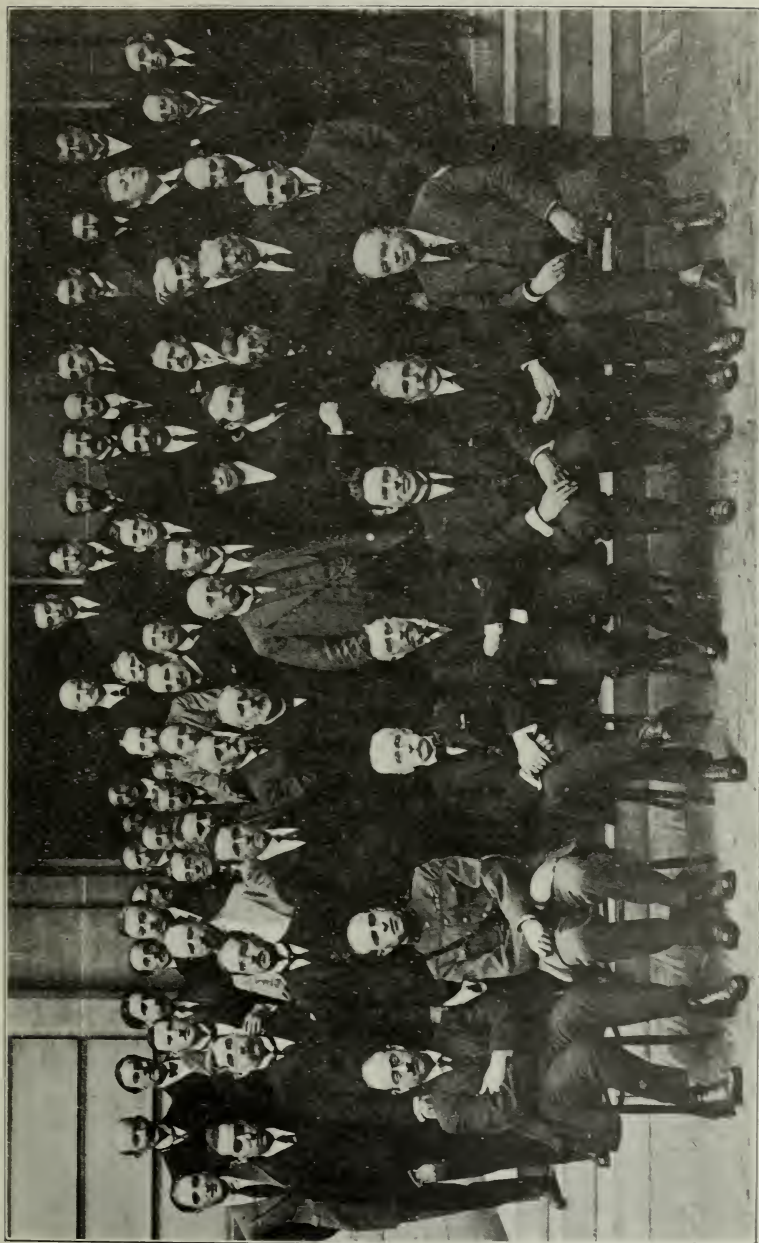
In 1906, when with Pearce Bailey I went to Munich, we took in some of Dupré's medico-legal lectures in the old prison on the "Isle" in Paris. He was most snappy and brilliant in his medico-legal presentations.

In our illustration Dupré, third from left, sits by the side of his successor, Henri Claude.

The nomination of Claude to the chair of mental medicine of the University of Paris is one that has met with considerable approval by his colleagues and confrères. It seemed that he was destined for neurology, as Raymond's interne, but he turned aside as winner of the gold medal internship to internal medicine and for ten years served as preparer for Bouchard in the pathological laboratory. Here he laid the foundations for his knowledge of general pathology, of experimental medicine and of general medicine. In the field of neurology he has gathered ample harvests. In psychiatry itself as more sharply delineated it cannot be said that Claude has made as yet any striking contribution to this field but the solid foundations on which he has reared his knowledge of the action of human beings leaves little doubt that in this field he will have much to contribute.

Henri Claude was made interne of the hospitals during the year 1893, interne of the gold medal in 1896, doctor of the hospitals in 1901, fellow (*agregé*) in neurology in 1903, assistant at the Clinic of Nervous Diseases and under this title was frequently in charge of the course at the Salpêtrière where he directed the service for the nonresident psychopathic patients.

Frequently laureate of the Faculty of Medicine, of the Academy of Medicine, of the Academy of Sciences, he is a member of the Society of Biology, a member of the Society of Psychiatry, of the Society of Legal Medicine, of the Society of Neurology of which he has been president. For the last fifteen years he has been expert



Paris Neurological Reunion, June 2-3, 1921. See *Revue Neurologique*.

of the tribunals where association with him is particularly appreciated by both judges and physicians.

He has published a number of studies in the important review "L'Encéphale" of which he is one of the directors. It would be unjust to forget the services which he rendered to the country during the war as chief of neuropsychiatric centers of the greatest importance and a director of commissions. It is an impossible task to attempt to give an exact idea of Henri Claude's works in the limited space of this talk. His publications touch upon the broader problems of medicine, of neuropsychiatry, of endocrinology, and of experimental pathology.

His studies on the pluriglandular syndromes, on the method of glandular tests, on the relations of glands of internal secretion to disorders of the nervous system are known to most present. His book upon the semiology of the divisions of the peripheral nerves, enriched with valuable personal documents, was very useful in the study of the innumerable injuries of the nerves due to the war.

Serous Meningitis and the Syndrome of Intracranial Hypertension constitute some of his most important works in neurology. One should add here his researches in cerebral tumors, in epidemic encephalitis, in atrophy of the cerebellum, in tumors of the pons, in spinal disorders, sections of the spinal cord, etc.

In psychiatry, his studies, his reports at conferences on epilepsy, the nature of hysteria, the rôle of the emotions in the psychoneuroses, apraxia, mental disturbances in epidemic encephalitis, dementia percox and senile dementia made him an authority.

If the moment has come when psychiatry is able to comprehend anything else than the subtle classifications remaining from generation to generation; if following the dream of the psychiatrists of the front rank, it can perhaps be impregnated by the ideas of internal pathology, of general pathology, of neurology, of endocrinology, then this is the place to hope that Henri Claude, aided by the disciples he has already made and by those who shall desire to attach themselves to his school, will contribute powerfully to the renovation of this science, entering more and more into the path of biological research.

Of the actual work of the Congress itself you may be reminded of the different technique followed. A printed report is made of the chief features in the discussion. This year the subject dealt with the extrapyramidal syndromes—chiefly of the Parkinsonian pictures

and the reporter was Souques. In rapid summary Souques concluded:

Paralysis agitans, or Parkinson's disease, is not a morbid entity. It is not a disease *per se*. Souques would envisage under this title a syndrome which may result from a number of different causes which act upon a certain localized portion of the nervous system. It is not the nature of the cause, nor the variety of the lesion which should occupy the major focus of attention, but rather the study of the topography of the structures involved. The others naturally are of interest, but in order to have the important concept in mind, the facts of anatomical localization are the important topics. Certain modifications of the clinical picture are accompaniments of certain specific causative factors, but these are of secondary value in regarding the concept.

Whereas the clinical history of paralysis agitans, or the Parkinsonian syndrome has had great elucidation, it cannot be said that its physioanatomic comprehension has kept pace with the clinical descriptions. The object of his report was to bring together all of the newer conceptions in which the work of the Dejerines, the Vogts, Kinnier Wilson and Ramsay Hunt were duly emphasized—Edinger's and Kappers' term adopted by Hunt of the paleostriatum for the globus pallidus and the neostriatum for the putamen and nucleus caudatus was called into service. The Vogts understand by the words *pallidum* and *striatum* the same concept in general.

It was impossible to speak of all of the factors brought out by Souques, but my own tendency is to emphasize three situations:

1. Importance of the substantia nigra as being involved in the Parkinsonian syndrome, especially of epidemic encephilitis.

2. Encephalitis and its lessons.

3. The lack of real understanding in the Congress of what is meant by emotional factors. Courbon and Lepine were alone in their comprehension of the significance of emotional trends and their relation to constitution and disease.

Dr. Jelliffe then showed the portraits of a group of French neurologists that had given a brilliant series of lectures to postgraduates and undergraduates at the University Medical School. (These are now available in a fine monograph. *Les Actualités Neurologiques*, Masson et Cie, 1922.)

The personalities and work done by Leri, Bouttier, Guillaud, Crouzon, Sainton, Vurpas, Bourguignon, Behague, Sicard, Foix, Laignel-Lavastine and other representatives of present-day Paris neurology were touched upon and portraits shown.

The work of Gustav Roussy and his coworkers, chiefly Lhermitte and Cornil at the Paul Brouss Hospital is deserving of protracted mention. I show you pictures of these neurologists and of the hospital where they do most of their work. Roussy's brilliant work upon the thalamus and many others may be rapidly alluded to.

The Dejerine Foundation was then described and the portraits of Mme. Dejerine, André Thomas and Jumentié shown. Several of the Dejerine Salpêtrière groups were shown. Mme. Dejerine and Ceilliers' work on the Osteoarthropathies, and Thomas' work on the Pilomotor Reflexes shown by lantern slides.

Dr. Jelliffe then took his auditors to Switzerland, stopping with Dr. Robert Bing at Basel and then to v. Monakow's collections in Zurich. He showed the master at work surrounded by his pupils and then showed a number of slides illustrating v. Monakow's ideas of the integration of bodily function, the choroid plexus and its relations to mental and nervous disease. A rapid visit to Burghölzli Hospital and to Professor Bleuler was made and the present tendencies of psychoanalytic applications to psychiatry touched upon.

Dr. Jelliffe then went to the Neurological Institute of Vienna, showing pictures of its rooms and equipment, of Marburg, Pollak, Spiegel and assistants in the laboratory. The recent work going on in the Institute was related, particular attention was given to some of Spiegel's recent work in the vegetative nervous system. References were also made to the work of v. Economo in encephalitis and of Wagner v. Jauregg and the malarial treatment of paresis. Dr. Jelliffe spoke of the technic and the patients he had individually seen. He also alluded to later discussions held at Braunschweig with Weygandt, Nonne and others whose results were encouraging as to this newer attack upon paresis.

From here the speaker took his hearers to Kraepelin's Clinic at Munich illustrated by a number of slides. He spoke of the death of Alzheimer, Nissl and Brodmann, giving short accounts of these workers with all of whom he had been in personal touch. Kraepelin himself he saw in Italy and his energies were now being directed towards building up his Research Institute in which he had an able ally in Rüdin. Dr. Jelliffe spoke of the living conditions in Munich, which were excellent on the surface but which were held together under a high state of tension. The scientific work in the clinic was

as active as ever, Spielmeyer and Spatz carrying on the Alzheimer traditions and enlarging the scope of their investigations beyond purely cellular alterations.

Berlin was rapidly visited. Portraits of Rothmann, Lewandowsky, Oppenheim and Erb were shown and brief résumés of their work given. A visit to the Vogts, was described, with portraits, and the extensive work of the Vogts and Bielschowsky outlined. Vogt's program as to the work to be done on the cortex was briefly discussed. The work on the striatum also was outlined.

Dr. Jelliffe then gave a very rapid summary of the work done at the Brunschweig meeting of the *Deutsche Nervenärzte*. Strümpell's Amyostatic Symptom Complex was the subject and comparisons were drawn between the work at the Paris and Braunschweig congresses on the same subject—the physiopathology of the striatum region. Portraits of a number of those participating were also shown. Nothing but the most cordial courtesy was extended throughout the congress.

Dr. Jelliffe dwelt for a moment upon the fascinating work of Lewy on experimental studies and metabolic pathways of vegetative function. Lewy, with Brugsch and Dresel have commenced a direct attack upon the neurology of metabolism and have shown the importance of mesencephalic structures for the integration of visceral functioning, a subject which was near to the speaker's interest, since he had been talking about it to the New York Neurological Society for some years past, ever since Wilson had called attention to the liver in his lenticular syndrome.

Brugsch, Dresel and Lewy showed that in guinea pig experiments when small localized portions of the medulla are wounded and complete metabolic analyses carried out and complete controls of the degenerated areas and secondary degenerations followed by serial sections, hyperglycemia and glycosuria took place when the dorsal vagus sympathetic synaptic zone is wounded, unilaterally and bilaterally. Lesion of this region is the cause of the so-called Claude Bernard sugar phenomena. Retrograde degeneration permits one to follow down fibers to a nucleus periventricularis where changes in the ganglion cells are present. Lesions of the ganglion cells of the ganglion habenulæ are also to be found. These authors also believe that within the dorsal vagus vegetative nucleus, sympathetic and parasympathetic cells exist. The disturbance of one group lying in the posterior third of this zone leads to a hyperglycemia, whereas

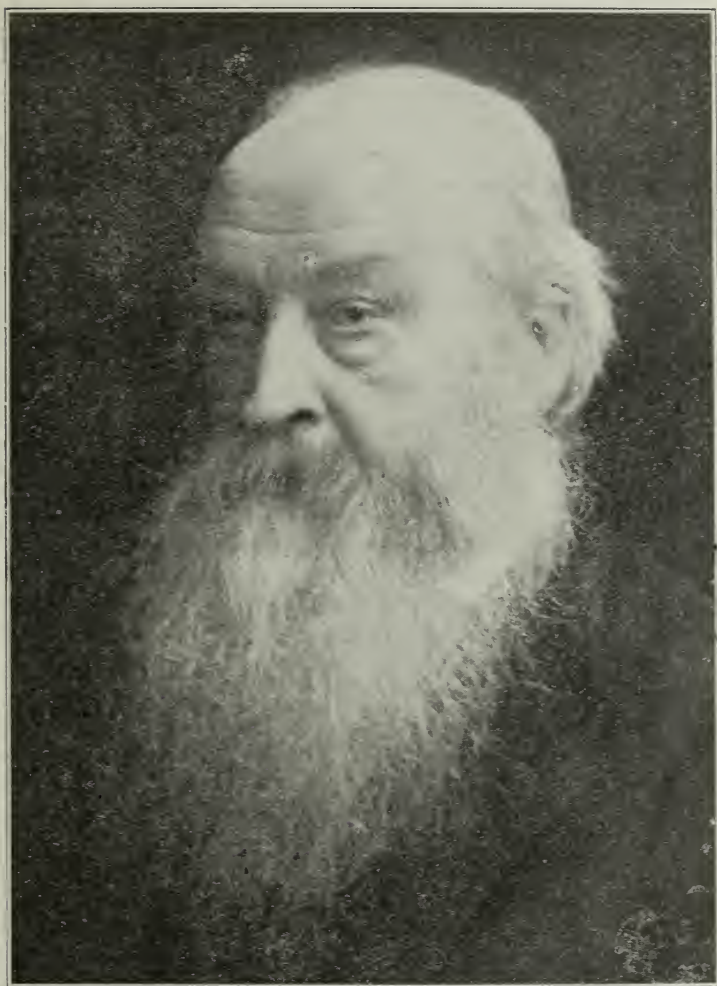
lesions of the anterior portion of the nucleus tend to cause a hypoglycemia. The authors also believe that an important synaptic station in the pathways involved in the coördination of the salt and water distribution of the body is to be found in the formatio reticularis on the median side of the corpus restiforme, lying close to a parotid secretion zone. In one and a half hours after an injury to this zone there is an increase in the sodium chloride of the blood.

He then took his auditors to London and the Queen's Square Hospital, the organization of which was outlined. Here English neurology was enshrined although many notable figures had never been officially connected with Queen's Square.

Dr. Jelliffe rapidly ran over Head's newer aspects of the aphasia problem and spoke of Head and Riddoch's work on the Mass Reflex, bringing the latter into coördination with the studies of Lhermitte on the cord and of André Thomas on the pilomotor reflexes.

He spoke of the death of Henry Maudsley and of his contributions to psychiatry, considering Maudsley almost the only figure of English psychiatry that spoke in the language of Dynamic Psychology. Only with the great war did English psychiatry awake from a formless static inertia that was difficult to understand, Stoddart among the older group alone comprehending the real situations as Maudsley had seen them. Mercier's crabbed satire had seemed to cramp psychiatry in England almost as effectually as he himself had been locked up by his venom and his rigid "logic," both of which he used to ridicule his adversaries.

That English psychiatry had begun to awaken was evident and he showed a number of slides illustrating Sir Frederick Mott's work on the gonadal changes in dementia precox. He showed Mott at work in the new Maudsley Hospital, with lantern slides of the hospital itself. He called attention to the fact that almost every endocrine organ had been indicted by different investigators. Undoubtedly the most radical alterations were to be expected in spermatogenesis and oogenesis, and even in the cells of Leydig—all of which Mott's sections showed were gravely altered. Whereas Mott argued chiefly for these gonadal changes as of primary significance, Dr. Jelliffe emphasized his belief, which he had frequently expressed, that they were results and not causes. When, to use Southard's phrase, a fourth dimensional psychiatry becomes thinkable, the life movement of the organism as a whole must occupy the focus of attention. This dynamic urge, which like time, forces the individual along lines of



HENRY MAUDSLEY

behavior, metabolic or social, which have a definite entelechy. The continuance of life is life's chief function. This has been written into every cell of the body and is of the essence of its expression. Naturally the gonadal system, more perhaps than any other structures, must record this push.

Nature's great aim may be conceived to be to develop adult psychosexual individuals. Practically all mankind is struggling along this pathway and halting at various levels of psychosexual evolution. The chief criteria to determine the stage of this development in any individual case, are found in the unconscious. The psychoanalytic technic alone can determine this. All the previously orthodox criteria of so-called group logic are usually camouflage substitute products. In the study of unconscious processes one may be able to determine, in a manner analogous to that used by the paleontologist to determine a geological horizon, just what stage the individual has reached in his psychosexual evolution. His dynamic strivings bear a direct relationship to this grade of development, and his constitutional diseases, speaking in general, develop in definite associations with his dynamic strivings. Dr. Jelliffe said he had developed this theme before this Society frequently and it was not necessary to go over the ground, but so far as the findings in any group of organs of the body were concerned, particularly so far as the Mott gonadal changes, the faulty psychosexual evolution of the individual, so far as his wish life were concerned—these because libido was turned away from the reality functions of life, were responsible for the changes in the bodily structures. The faulty *wish* caused the disease which structurally was expressed in regressive anatomical changes, and so far as *conduct* was concerned, by a series of *potency wish substitutes*.

Dr. Jelliffe then went on and discussed the work of S. A. K. Wilson and the striatum syndromes, bringing this author's contributions in line with the work done at the Paris Neurological Conference to which Wilson himself had contributed, and to the Braunschweig meeting where the same subject was discussed.

DUTCH NEUROPSYCHIATRY AND ITS REPRESENTATIVES¹

On this occasion, when this society welcomes as its new president Dr. E. G. Zabriskie, a worthy scion of one of the earliest Dutch families of our beloved New Amsterdam and Breukeln, it seems a happy coincidence that I should be able to turn your attention not to the achievements of what the split off new world descendants of

¹ Illustrated talk to New York Neurological Society, February 6, 1923, as well as before the New York Psychiatric Society, somewhat more fully written out than the previous part of the paper.

those worthies of the seventeenth century have accomplished in the field of neuropsychiatry, but rather to point out even if but very fragmentarily, what they are now doing at home in Holland.

Even though my discussion must of necessity be but a touch and go, and though I can not show you to the full what the present day Dutch school of neuropsychiaters is accomplishing, it may be stated that for so small a group it probably presents the greatest number of eminent workers in this field to-day.

It is in a measure to be regretted that we have not preserved a little more of that old Platt-Deutsch that first set its stamp in New Amsterdam, Brooklyn, Hoboken, Flatbush and many other names which reach our ears daily, else the work of these Dutch workers would be better known to us as they, for instance, have been recorded in the *Neurologische en Psychiatrische Bladen*, now in its twenty-sixth year, as well as in several excellent Dutch medical journals. In the past ten years, however, Dutch investigators have used more French and German, and many record their observations in English even in their Dutch magazines.

Had I the space I should have liked to present in orderly review the development of Dutch neuropsychiatry. In this I could have culled from the work of a Miss Mesdag, who has recently prepared a full bibliography of Dutch neuropsychiatry, but I must forego this pleasure and take you directly into Holland and point out the few spots in the medical landscape that my time permits.

I must first regretfully call attention to the recent death of two of Holland's most genial workers, J. K. A. Wertheim Salomonson and C. A. Pekelharing.

On September 16, 1922, J. K. A. Wertheim Salomonson, rector of the University of Amsterdam, died suddenly of heart disease at the age of fifty-eight. This was a severe loss for science in Holland as well as in other countries, for his research work has been of great value.

Dr. Wertheim Salomonson worked very much in science, but he was not a dry scholar. He was a lover of art, had a great aptitude for music and was also a first rate sportsman. Alike in his person, in social intercourse, and at work, he maintained the appearance of an aristocrat. He trained many neurologists and all had a high opinion of him and admired his scientific methods.

The work of Pekelharing, whose death also took place quite recently, was chiefly in biochemistry and I must needs pass him with-

out further mention save as I may touch upon the problems of muscle tonus to which Pekelharing contributed many years ago.

The present Dean of Dutch neuropsychiatry is Professor C. Winkler, for many years in Amsterdam in the University as Professor of Neurology and now for nine years Professor of Psychiatry, and Director of the University Clinic at Utrecht.

Winkler has a modern psychopathic hospital. Here for the past ten years he has done work which has been an inspiration to his



J. K. A. WERTHEIM SALOMONSON

fellow workers. They have shown their admiration of this work in gathering together now in eight volumes his *Opera Omnia*. These volumes are a mine of neurological lore. It is not without a certain amount of profit as well as of interest to look at Prof. C. A. Pekelharing's introduction written on the occasion of the presentation of these volumes, commemorative of the twenty-fifth anniversary of Winkler's professorship. They include practically all of his work, omitting only two atlases prepared in collaboration with Dr. Potter.

Winkler was born in 1855; his father and grandfather were physicians. He was a precocious boy. At eighteen he entered the University as a medical student. He there became much intrigued

by pathological anatomy under Talma and his graduate dissertation was upon tuberculosis. He himself says it was not a remarkable dissertation. He then entered surgical service of a communal hospital at the Hague under an uncle. He soon left there for Utrecht to be an assistant to Talma and to devote his life to research. Here he very early turned to neuropathology and to neuropsychiatry.

It was in 1876 that special chairs in psychiatry were voted to be instituted in the Dutch universities by the government, but they were dilatory in providing the necessary budgets. Schroeder von



C. WINKLER

der Kolk was among the earlier teachers in this specialty. In 1885, having developed a fairly large private clientele, Winkler was appointed lecturer in psychiatry and then visited the newly established German Kliniks of Heidelberg, Gudden at Munich, and Meynert at Vienna. His opening address on Psychopathology in October, 1885 (*Opera Omnia*, Vol. I, page 143) can be read at this time to advantage. His interest in the functions of the brain soon led him to devote much time to brain surgery in which direction he was in constant liaison with Guldenarm, the surgeon of the university, his two years' surgical service at the Hague having made him an excellent surgical assistant. He soon founded a polyclinic service in neurology

and for the study of the neuroses and later gave courses in criminal anthropology to the law students.

All of this time the government hesitated to supply funds and accommodations for a clinic along broad lines and he was constantly engaged in political propaganda to advance the cause of neuropsychiatry. Finally he resigned from his Utrecht lectureship because he could not get the politicians to move and finding better opportunities for psychiatric research in Amsterdam he was appointed in 1896 professor in that university. During nineteen years he advanced this work in Amsterdam, the rich results of which are collected in the volumes of which I have spoken. He attracted a large number of students, and also founded the neuropsychiatric society and by reason of his activities as a member of the Royal Academy of Sciences, he brought to fruition the foundation of a Central Institute for Brain Research. Dr. Ariëns Kappers, one of his pupils, and of whom we shall speak, was made its director. A Central Brain Commission was founded at this time. Some of you are acquainted with the marvelous plates which this commission, with the aid of the Royal Society, have published. Von Monakow of Zürich is still one of its most active members. Its work has been seriously interfered with by the war.

In his psychiatric work, founded on exact anatomical knowledge, on physiological experimentation, his surgical training having made him an adept in this line, he did not neglect clinical observation. "Therapeutic results" was his constant aim, and the end of his researches was to benefit those with whom he came in direct contact. His laboratory researches were always guided by personal clinical problems. He was, as Pekelharing observes, a master in every aspect of his work. His observations were thorough, his diagnostic acumen keen, his research patient and profound and his therapeutic results striking. His was a remarkable catholicity of point of view and he always deprecated the narrower issues of founding a "school" which was so outstanding an attribute of the German universities.

In the meantime the Utrecht situation was advancing and finally by 1900 a chair of psychiatry was actually financed. Ziehen came from Jena and took charge in a modest way for only three years. Heilbronner was his successor, but not content with the meager provisions put up with by Ziehen, demanded a proper clinic in the modern sense. By 1907 the dilatory government accepted but it took them until 1913 to finally complete the full plan. In September,

1914, in the trying days of the opening of the war, Heilbronner died suddenly of heart disease.

It was then that the authorities turned to Winkler. Now it was their time to worry. Utrecht had finally, 1914, achieved what thirty years previously Winkler had fought for. He finally, after much persuasion, agreed to take over the clinic. His inaugural address was on the Relationship of Psychology to the Physiology of the Nervous System (*Opera Omnia*, Vol. V, page 541). It was a summing up of three previous discourses, the study of which offers the most complete insight into Winkler's position at that time. The first, The Localization of Psychical Functions in the Central Nervous System (*Opera Omnia*, Vol. V, page 63); the second, On the Relative Value of Localization (*Opera Omnia*, Vol. V, page 291) and the third, The Structure of the Cerebral Cortex and New Facts in the Localization of Our Perceptions (*Opera Omnia*, Vol. V, page 471).

Winkler here develops his major premises that anatomical, physiological and clinical research on the structure and function of diverse portions of the nervous system are essential. They are detailed requisites which, as Pekelharing remarks, many who would think of themselves as philosophers, are disposed to regard somewhat with disdain. But throughout it is clear that Winkler constantly is preoccupied with a most difficult problem—one of much importance, namely that of the soul and its relationships to the body. In a strictly scientific manner, following his natural history bent, he has regularly explored this difficult territory constantly seeking to arrive at conceptions which would make matters comprehensible. Originally much taken with Wernicke's ideas in psychiatry his tendency to keep free from any of the limiting advocacies and controversies more or less due as a follower of a so-called school, led him more and more into broader biological formulations. He went, as it were, in and out of schools, an individualist and an originator.

Thus, as may be seen on the title page of his great *Manuel de Neurologie*, Vols. VI, and VII of his *Opera Omnia*, he was an advocate of the energetic hypothesis that the human body was a capturer, transformer and deliverer of energy. "An Effort at Grouping in Functional Systems, the Pathways and Centers of Diverse Localization, whereby diverse Sensory Impressions can be transformed into Reflex Activities." This is a program rigidly adhered to, so far as present day research will permit.

Much as I should like to present a résumé of his detailed researches, which cover an enormous field, space does not permit. I must be content to stress some of his, to me, most fascinating suggestions concerning certain functional aspects of the auditory nerve. Inasmuch as we shall take up the work of some others in this regard, notably that of Magnus and Kleijn, the general situation may be glimpsed. After treating at great length and in detail the proprioceptive functions of the members and their biological functions in the nutritive complex, Winkler in his chapter on the eighth nerve, brings out that this group is both phylogenetically and ontogenetically a cutaneous one and that of all of the proprioceptive systems it is probably the oldest group. To grasp its history one must go back to the marine habitat in order to trace the results of adaptation to water shock with their consequent physical variations to pressure. The proprioceptive system he suggests was originally created here, since modifications in the water supply needed appropriate adjustment in the maintenance of the nutritive complex. Here, as undoubtedly for the tracing of the phylogeny of many other functions of vertebrate animals, one must go to the invertebrates.

The statocyst organ, advantageously studied in marine molluscs (*Pterotrachea* is the one chosen), is the beginning of this history. Two facts have been demonstrated regarding this organ: (1) Its sensorial cells can be affected by rhythmic vibrations by the intermediation of the otoliths; (2) It exercises an influence on the equilibrium (*i.e.*, space adjustments) of the animal. Coelenterates and crustaceans possess this organ and Kreidl has shown a remarkable uniformity of function throughout an ascending series of invertebrates.

The displacements of the otoliths in the statocyst, as the origin of the regulation of very complicated movements in which the head, the trunk and the eyes are involved, has become, largely through the investigations of Breuer, a valuable point of departure for the functional study of the labyrinth. It is striking that the first development of a central nervous system should arise with the appearance of the statocyst and the eye, and there flows from this, says Winkler, the conclusion that the labyrinth is the most ancient of the sensory organs. Moreover, the fundamental organization of the statocyst maintains itself in all of the animal series even through the superior vertebrates, in which those modifications in the form of the organ arise which have come to be termed the labyrinth. We shall not trace

the gradual modifications in their development, these have been done with great acuity by Schepman, also a Dutch naturalist, but arrive at the elaboration of an octavolateral system which is to be considered as an ensemble. In this are to be distinguished, the vestibular and cochlear nerve components. The organ of Corti is representative as the receptor of the cochlear component, gradually elaborated as the stimuli took on more and more of a terrestrial character, and what we designate as sound wave components, were added to those of a more aquatic nature. Notwithstanding the fact that the two elements of the octavolateral system seemed quite different, careful research shows an essential unity. Whereas it has been assumed that the two functions for higher vertebrates termed "spatial adjustment" and "hearing," have developed separately and were by accident more or less united, a view to which Jelliffe and White gave assent in the first three editions of their *Diseases of the Nervous System*, we are convinced on going over the evidence presented by Winkler and those quoted by him that this is incorrect, and adopt the view in our new fourth edition (1923) that the hearing function has gradually evolved out of the primitive water shock mechanism of the statocyst, to respond more and more to air shock reflex activities.

Thus bodily displacement has come under the reflex response of two types of stimuli originally one, but gradually separated. The cochlea has come to represent an organ originally reacting to a different type of water shock, but more and more to air borne stimuli, audition, and has resulted in intermittent tonic muscular reactions, rhythmic movement reflexes such as swaying, the dance, singing and finally speech reactive activities. The recital of the barest outline of the details of this gradually developing synthesis either from standpoints of structure or function would consume many hours. I leave it to your individual reasoning capacities to grasp how the intermittent reflex activities through the larynx, the tongue and the muscles of the lips have acquired their special importance. "*Because, above all they conserve as a heritage of ancient function, the remarkable and particular faculty of all the static organs, namely to reproduce by reflex pathways the phenomena which have given rise to the stimulus.*" When a shock of water acts upon the body with a certain force, the statocyst determines a displacement of the body of similar importance (adaptation). In the same manner for the shocks which come through the air. The sensory organ (Corti) excited by sound vibrations, is capable of reproducing the same

vibrations by the organs which it commands. This is a characteristic function of the acoustic apparatus, to determine by integrated reflex pathways, in the phonation mechanism, also widespread in the body musculature, vegetative, and this must be emphasized, as well as sensorimotor, intermittent contractions, in that it reproduces a sound (or a movement) identical to that which has been the point of departure of the excitation. The sound stimulus is thus reproduced as a rhythmic wave by the phonating mechanism of the animal that perceives it. It is but a corollary that the acoustic mechanism has developed more and more a unique mode of response. In the simpler sensory organs the initial stimulus is responded to directly, whereas for the intermittent stimuli which have become more and more complex, a constant tonic apparatus, as a foundation, is essential. Thus has language been developed and with this human intelligence. Here the reflex responses have become highly subtle and complicated, but still governed by the same fundamental laws. The organ of Corti has come to represent the complex receptor apparatus in the zones of language, its telencephalization—as the cortical integration mechanisms. (See pages 155, 156, Vol. II, Winkler: *Manuel de Neurologie*.)

In the mammalian octavolateral system (labyrinthine complex) there are to be distinguished at least four neuroepithelial structures: a, the striæ nervosæ in the semicircular canals; b, the maculæ, or taches sensorielles of the utricle and saccule; c, the cristæ, or cretes sensorielles, of the ampoules; d, organ of Corti, in the cochlea. The most recent of these is the organ of Corti, which reaches its complete development only in the mammalia. The cretes sensorielles of the ampoules are older; the oldest of all the structures are those of the maculæ.

Winkler, following Magnus and de Kleijn, compares the maculæ to the primitive statocyst of invertebrates. These organs primarily function for the maintenance of general muscular tonus. They collaborate with the proprioceptive stimuli from the body. The function of the cretes sensorielles of the ampoules is of later evolution, and is more specialized. They have appeared for the registration of the movements of the head and for the head organs, chiefly the eye movements. They remain in close liaison with the general tonus functions of the maculæ. *These regulatory functions are strictly condensations of geotropic reflex activities and are purely unconscious.* Rhythmic activities have not yet taken on their social

rôle. These are still to develop as various forms of more conscious bodily displacement, marching, dancing, unison actions, and other movements, chiefly initiated through sound waves, and closely related with the development of laryngeal and buccal proprioceptive stimuli associated with the developing speech function. Thus the organ of Corti has come to be developed in response to a wider conscious acquisition of control of bodily movement, including tongue movements, *i.e.*, speech, in its social orientation function. These reflexes for bodily orientation are no longer geotropic and entirely unconscious, they are taking on sociotropic activities, partly conscious, and in the highest cultural types becoming consciously socially valuable. The organ of Corti then is functioning in response to rhythmic or interrupted stimuli from the bodily organs and from the tongue through its symbol formations. How Winkler further develops his argument must be left to the reader, who will be well repaid to go carefully over the details (p. 127).

Nowhere has the reviewer found so sound or penetrating a view of the development of the affective response to sound stimuli through muscular displacement and imitation. What the newer psychopathology is finding out with reference to unconscious social reactions to tone, to voice, etc., is well worked out by Winkler in his analysis of the unconscious reflex awakening of sonorous response to motor stimulus. Thus is laid down a true physiology of affective effector release from the sound—and vision—of muscular stimuli in the environment. We thus see how extremely valuable language has become as a type of stimulus as well as release mechanism through gradual condensation of language symbols. Thereby the body and its organs are not required to go through severe and dangerous displacements if through language the necessary socially valuable protective stimulus and discharge can be found. I have presented to this society from time to time the definite corollary of this in speaking of the affective discharge value of the symbol, particularly in its relation to a dynamic pathology in chronic disease of various types, and this complete analysis of the pathways through which and by means of which this is made possible is of much interest. The whole psychopathological argument relative to human response to emotional stimuli is brought nearer to structural facts in this masterly chapter on the eighth nerve.

Muscle Tonus.—During the past ten years the subject of muscle tonus has been actively discussed by a number of workers of the

Holland school. This cannot be expounded exhaustively and I regret that my collection of portraits is still incomplete. Among the workers whose contributions to the subject have entitled them to world-wide recognition and discussion are De Boer, Boeke, Dusser de Barenne, so far as the sympathetic participation in motor innervation is concerned, and the work of van Rijnberk, Winkler, Jelgersma, Magnus and Kleijn and Brouwer.

Concerning the so-called double motor innervation of striped muscle tissue even the Dutch workers are at considerable logger-heads. No attempt will be made here to conciliate the various views nor to present a complete historical résumé. There are plenty of these in the literature. It may be recalled that Langelaans (1), Brondgeest, Pekelharing and his pupils, Hoogenhuijze, Verploegh and Harkink whose names are bound up in the discoveries, were all among the earlier workers of this problem.

J. G. Boeke (2), anatomist at Utrecht as early as 1909, by means of Bielschowsky preparations showed small neurofibrillar end rings, and end nets, at the end of fine nonmedullated nerve fibers. These were quite distinct from the ordinary end plates well known as constituting effector muscle organs of the pyramidal system. These so-called accessory nerve endings lie hypolemmally on the muscle fibers embedded in the granular sarcoplasm of the fiber. Boeke believes these to be of vegetative nature. These sympathetic fibers were found by many others and their presence as structures may be said to be fairly well established.

Whereas the morphological problem (3) may be said to be fairly well established the physiological one is actively discussed here. De Boer's studies may be of interest since he has been one of the most active of this group in claiming the plastic tonus function of these vegetative effector mechanisms. With the study of their pathways to the cord and their higher synaptic junctions in the striatum of our own Ramsay Hunt, we are somewhat, though not securely, acquainted. Concerning the peripheral activities the Dutch observers have apparently separated mechanical from chemical vegetative functions and the chief discussions focus as to the respective merits of plastic mechanical factors, and chemical nutritive factors, in the study of which latter Pekelharing and his pupils and Dusser de Barenne have made some interesting observations.

The analysis of the plastic tonus mechanism is one of much complexity—some of the notions of De Boer, *privat dozent* of

physiology in the University of Amsterdam, may be alluded to (4). Following a clue given by some work by Meyer and Weiler (1916), by H. Fröhlich, and H. H. Meyer, Liljestrand and Magnus and others, that isolated muscular cramps due to tetanus can be completely inhibited by intramuscular injections of novocaine without any loss in the usual sensorimotor functions of the muscles, De Boer repeats the experiments and brings them in liaison with the earlier ones of Brondgeest, who obtained loss of plastic tonus by section of the



S. DE BOER

posterior roots, and of his own and of Dusser de Barenne by section of the rami communicantes. These results all converge to afford much foundation for the hypothesis that a vegetative factor of plastic tonus is to be found in the effector nerve nets of Boeke and that this type of tonus is under sympathetic control. De Boer has attempted to disprove Liljestrand's and Magnus' position that novocaine poisoned the muscle proprioceptors, and also Dusser de Barenne's opinions that the tonus reflex arc is conducted through the motor cerebrospinal pathways. He shows that sodium sulphocyanate can bring about the tetanus-like reactions herein referred to and they can be entirely abrogated through the concomitant action of novocaine.

These, his latest experiments along lines of pharmacological

dynamisms, coupled with his earlier ones (veratrine and electromyogram studies) enable him to come to a fairly definite conclusion that skeletal muscle tonus has a definite peripheral autonomic reflex arc component (5).

I need not point out the numerous correlates that flow from such a conception, and what a flood of experimental possibilities pour from them, particularly in the numerous perplexing muscle syndromes one meets with in encephalitis, in catatonia, in tics, in the psychoneuroses, etc. Dr. Dana in a personal communication thus speaks of a marked increase in basal metabolism in one of his postencephalitic Parkinsonian patients. This might well be studied from the point of view of Pekelharing's researches on protein (creatinine) metabolism and the tonus mechanism of striped muscle. Dusser de Barenne in support of his position while admitting that the fibers and accessory end plates of Boeke are vegetative in origin does not believe, however, that they have anything to do with mechanical, *i.e.*, Brondgeest tonus. These are due to the motor nerve fibers. Chemical muscle tonus is their function. How this operates is still a mystery (7). Dusser de Barenne's (8) work on sensory localizations in the cerebral cortex, I can mention only, and also only touch upon his contribution to other relationships studied between the sympathetics and muscle tone. Thus decerebrate rigidity does not seem to be modified when the muscles are deprived of their sympathetic reflex arcs.

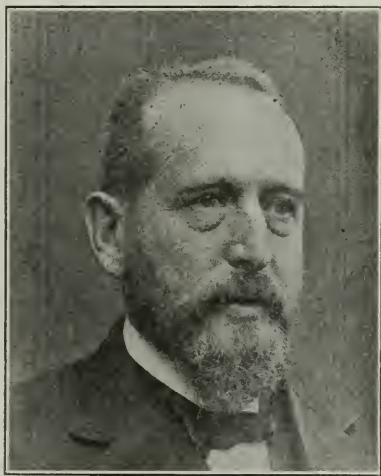
These studies lead us into the most complex of neurological problems, especially as we try to trace the upper coördinates of these tonic mechanisms. These open up into a wilderness of clinical observations and experimental researches in the solution of which the entire neurological world is engaged. Since Sherrington published his volume on integration actions of the nervous system, the Vogts their work on the striatum, Wilson his observations on the lenticular nucleus, no problem has been more actively discussed than the subject of muscle tonus and its higher synaptic controls.

I purpose calling your attention here solely to the work of two or three of the Dutch workers with these problems. Chiefly Van Rijnberk, whose researches on the cerebellum have been alluded to, and to Magnus and Kleijn. I regret I must be so cursory.

In 1915 Van Rijnberk on the basis of the newly acquired notions concerning the double motor innervation of voluntary muscles, subjected the paradoxical lingual phenomena of Vulpian to a reanalysis.

This was made a contribution to the study of muscular tonus and its innervation (9).

Until Boeke had in 1913 made it fairly certain that there was a vegetative supply to striped muscle the older hypothesis to account for Vulpian's lingual paradox remained inadequate. By the aid of these newer views Van Rijnberk sought to clarify the situation. It is not impossible that the muscular tonic phenomena following facial palsies are of this nature. Pursuing the question further Van Rijnberk subjected certain observations of Sherrington on the



R. MAGNUS

“foot phenomena” to further investigation and found they fell in the same category. He then (1917) advanced to the study of muscle tonus in decerebrate rigidity and entered the illimitable field of the significance of muscle tonus as a determiner of postural reactions, a field which as you know English physiology has cultivated with special persistence and good fortune.

I must leave Van Rijnberk at this point and consider for a moment some of the work of Magnus and Kleijn whose masterly researches have concerned themselves with certain aspects of this same problem. Magnus and Kleijn are pharmacologist and otologist respectively, both teaching in the University of Utrecht. One could spend several evenings in discussing the work of the past ten years by

these investigators. Following up Sherrington's Studies in Decerebrate Rigidity they showed that the phenomena were partly related to synaptic stations lying in the brain stem, caudad to the plane of the anterior corpora quadrigemina and cephalad of the plane of the calamus scriptorius. The cerebellum seems to play no essential part in this postural reflex syndrome. This "standing decerebrate animal", as naturally one might suppose, was not a simple automaton, however, and Magnus and Kleijn in decomposing some of the elements in the syndrome first made clear that labyrinthine and



A. DE KLEIJN

neck reflexes could be separated. The *tonic labyrinth reflexes* arose from stimulation of the otoliths. The *tonic neck reflexes* arise in the proprioceptive nerve endings of the cervical muscles. Further analysis of labyrinthine components showed that each labyrinth influences the tonus of the limbs muscles of both sides equally, the trunk and eye muscles bilaterally but chiefly contralateral, the neck muscles of one side; contralaterally Magnus went on to analyze the so-called thalamus and midbrain animals by extending the transections caudad of the calamus scriptorius. The syndromes arising have common tonus factors, but different metabolic reactions. Temperature variation is one reaction affected. Magnus is analyzing this complex problem of the neural pathways

of temperature regulations. While at St. Moritz, where I saw him in 1921, he was studying certain peripheral processes set up by stimuli of the gases in the waters there. The tonus is "normal." The "postural reflexes" (Stellreflexe) of Magnus are contrasted with the tonic reactions of the decerebrate animal (Stehreflexe).

In the postural reflex four components have been described: (1) Head labyrinthine reflexes. (2) Body wall reflexes influencing head positions. (3) Neck muscle reflexes, combined with (4) trunk and limb muscle reflexes.

Two of these handle the position of the head in space, two that of body displacement. Magnus and Kleijn have very ingeniously analyzed the reactions to gravity and pressure stimuli in their so-called *Brettversuch*.

As one rises in the phyletic series, in monkeys for instance, eye muscle reflex participations in the stellreflexe are striking. I can not in my short time go further (10). Most of the work here referred to has appeared in *Pflüger's Archiv*. A later paper, Magnus: Körperstellung und Labyrinth Reflexe beim Affen. *Pflüger's Arch.*, 193, 1922, 396, is not included in Walshe's review. (A. de Kleijn and A. de Kleyn, both spellings used by author.)

The Cerebellum.—I have no intention at this time, or indeed at any time, to attempt a presentation of the subject of the cerebellum. This can be found elsewhere (11). I shall speak only of some living Dutch neuropsychiaters who have made most important contributions to our knowledge of cerebellar morphology and physiology. As already intimated, in this small group of men, the researches of all have crossed each others' trail, so that it is quite impossible to isolate the researches. Thus Brouwer's valuable work on the Olives as Part of the Cerebellar Components would with reason come within the frame of these paragraphs. But I shall first briefly mention the work of one of the great innovators in cerebellar physiology: Bolk. The name of that illustrious English anatomist, Elliot Smith, is closely linked with that of Bolk. His was, in a sense, the stimulus which determined a break on the part of both from older views concerning cerebellar structure. Previous to the newer views of Smith and Bolk the cerebellum had been studied chiefly, as it were, from above down, whereas with Bolk's schematizations, the comparative anatomy method, from below up, came to its most satisfactory expression. Smith worked primarily with Edentates, Bolk with Lemur albifrons and their work has now been fairly well recognized

as fundamental. On the physiological side, Van Rijnberk, professor of physiology in Amsterdam, has made many important studies. Many of his researches as well as those of numerous others of the Dutch school are found in the *Folia Neurobiologica*, a journal started by Ariëns Kappers which unfortunately has had to cease publication for a time.

What Bolk really contributed can only be glimpsed here and I can do no better than to borrow somewhat from Tilney's masterly summary of the Evolutionary Significance of the Cerebellum: "Bolk,



LOUIS BOLK

as the result of a study of the cerebellum in a large comparative series, still further advanced the ideas put forward by Elliot Smith. He concluded that the several parts recognizable in the mammalian cerebellum have definite functional significance and represent areas of central control over definite motor performances in the body.

According to Bolk, the cerebellum is divided into an anterior and posterior lobe by the *sulcus primarius* which corresponds to the *fissura prima* of Smith. The anterior lobe is divided by a series of three fissures into four lobules which Bolk numbers 1, 2, 3 and 4. A small and shallow fissure parallel to the *sulcus primarius* delimits the *lobulus simplex* which extends from the vermis out upon the lateral expansion of the hemispheres. The major portion of the

posterior lobe, however, that which lies caudal to the *lobulus simplex*, is divided into a median lobule and two lateral lobules. The median lobule constitutes the vermis and is separated from the lateral lobules by the two *sulci paramediani*, one of which lies on either side of the vermis. The vermis itself is divided into four lobules, respectively indicated as C-2 and C-1, B and A. The fissura secunda passes between C-1 and B. The lateral lobules are divided into two main portions, the *lobulus ansiformis* and the *formatio vermicularis*. These are separated by a deep incisure, the largest fissure in the cerebellum, the *fissura parafloccula*. The *lobulus ansiformis* is divided by a transverse fissure, the *sulcus intercruralis*, into Crus I and Crus II. Where the *lobulus ansiformis* and the *formatio vermicularis* come into relation with the posterior median lobule, there is a portion of the cerebellum which Bolk defines as the *lobulus paramedianus*. He explains the striking variations of the cerebellum on the grounds that form is dependent upon function and there must, therefore, be some direct functional relationship between these variations in the cerebellum and the control of the muscular system whose tonic, sthenic and static activities are dependent upon this organ. He concluded that all of the muscles of the body may be divided into two groups: those which act bilaterally together, such as the trunk muscles, and those which, although bilaterally present, have a certain independence in their activity like the muscles of the arms and legs. The muscle groups which show this independence of action are unilaterally synergic, while those which depend upon a simultaneous coördination are bilaterally synergic. To the latter group belong the muscles which produce movements of the head, of the eyes, of the mouth and jaws, of the tongue, pharynx and larynx, and of the trunk, in addition to certain movements of the upper and lower extremities which require bilateral innervation and act together as in locomotion. Upon the hypothesis, Bolk based his localization in the cerebellum of control for the two major groups of muscles. The cerebellar cortex is composed in mammals of a number of coördinating centers, some of which are paired for bilateral synergic control, while some are unpaired for unilateral synergic control.

"The *lobulus anterior cerebelli* contains the coördinating centers for the muscles which are active in movements of the head. The most anterior lobule is for the eyes; the second lobule, for the tongue; the third, for the muscles of mastication, and the fourth, for the muscles of expression and of the same side. The remainder of the

cerebellum contains the paired synergic centers for the muscles of the neck. In the upper portion of the *lobulus medianus* posterior are the paired centers for movements of the right and left extremities. The *lobuli ansiformes* and *paramediani* contain unpaired centers for the extremities, the arrangement of the centers in each case being ipsilateral, Crus I corresponding to the arm of the same side and Crus II to the leg of the same side. The remainder of the cerebelli contains coördinating centers for the trunk and the tail region, the formation vermicularis particularly having control of the tail.



E. JELGERSMA

"This localization in the cerebellum by Bolk on the grounds of comparative anatomy was subsequently confirmed by André-Thomas and Durupt and by Van Rynberk through many experiments upon animals."

Bolk is preëminently an anatomist and I can with propriety leave him with but little mention of his many valuable anatomical researches, to take up a figure identified with neuropsychiatry in Holland for many years, Jelgersma, professor of psychiatry in the University of Leyden. I met Jelgersma about 1905-1906 and as he brought to my attention first a work which has been one of the most enduring delights of my library, I owe him an early debt of gratitude. It is that remarkable classic by Jules Soury on the

History and Development of the Doctrines Concerning the Nervous System and Its Functions, a work, for a neurologist not to be acquainted with is to drop out Hamlet from the play. When in 1910 I had the pleasure of meeting Soury in Paris it was a delight as striking as had been that on reading his book. It was from Soury that an interest in Leibnitz arose and you now know the history of a not infrequent remark made by me in this society, for Leibnitz in a foot note on the first page of his *Monadology* says "he reads a book not for what he could find to criticize in it, but for what he could find new."

Jelgersma's work has been very extensive. Concerning some of the phases of modern neurology it may be recorded that Jelgersma (12) in 1908 started our modern researches upon the pathology of the striatum and its connection with paralysis agitans. He had noted in paralysis agitans marked atrophy of the lenticular fibers on their telenbrain pathway: the reduction of the ansa lenticularis and ansa peduncularis, of the H_1 and H_2 fields of Forel, the lateral thalamic nuclei, corpus Luysii, and the radiations of the substantia reticularis. The red nucleus and pontine structures were not modified. Whereas the interpretations of the present time have moved beyond their early formulations it is to Jelgersma's credit that he noted the striatal fiber system alterations. The paralysis agitans problem is still unsolved even though our own genial Ramsay Hunt has cast some highly valuable light on certain aspects of the problem to which Lewy (13) and Bielschowsky have added their observations.

Jelgersma's contributions to the function of the cerebellum have been of marked value (14), especially in their phyletic relationships since he has made extensive investigations of cerebellar function in Cetaceans. Jelgersma has emphasized the opinion that the cerebellum has no relationship with the vegetative organs. In the innervation of the blood vessels, the smooth muscle tissue, the endocrine organs, the cerebellum plays no part and he states that no connections with the sympathetic system are known. It also has no relation to smell, sight, taste or hearing. Only two feeling qualities he maintains are localizable in the cerebellum. These are deep sensibility of muscle and joint, and secondly tonus and equilibrium. Whether this position can be maintained in view of growing views implicating the sympathetic system as essential components in muscle tonus I for myself am still in doubt.

Jelgersma has given a masterly textbook on psychiatry. Written

as it is in Dutch it is little known, but it will repay careful study. Finally it may be added that Jelgersma has developed a strong supporter of the psychoanalytical theories, which in passing it may be stated is shared by many of the younger Dutch neuropsychiaters, among whom a strong psychoanalytical group has developed.

I have already spoken of the foundation of the Central Institute for Brain Research and the appointment of Dr. C. J. Ariëns Kappers, one of Winkler's pupils, as its Director. Still a young man, Ariëns Kappers has done a prodigious amount of work on the comparative anatomy of the nervous system. Even to read a mere list of his



C. U. ARIËNS KAPPERS
IN CHINESE RÔLE AS PROFESSOR IN PEKIN

researches would consume a whole evening. These have been most aptly and beautifully gathered together now in three large octavo volumes. The first by Droogleever Fortuyn on the Comparative Anatomy of the Invertebrates and two others by Kappers on the Comparative Anatomy of the Nervous System of Vertebrates. I have analyzed these elsewhere (Book Review, *Journal of Nervous and Mental Disease*) and many of you are acquainted with more than the title page which is here shown. Here as with Winkler, as we may gain from a short glimpse of his "Introduction," we note that Kappers follows the same note of an organizing synthesis function of the nervous system in its handling of cosmic stimuli. The naïve conception of the steamboiler man whose stomach alone provides him with energy has little place in modern energetic conceptions of the

nervous system. The "calory" concept is too narrow for the "organism as a whole" in its highest sociotropic activities.

Humoral pathology is comparatively a dead letter for anything beyond protozoa or coelenterates. Pathology, in the sense of disturbance of a *neurally integrated mechanism*, has become the order of the day, even in some recent discussions of the mechanism of inflammation. Immunity, anaphylaxis and other concepts lack precision until they are founded upon a neural more than upon a humoral basis. But this is an aside save by implication as one of the major



INSTITUTE FOR BRAIN INVESTIGATION, AT AMSTERDAM; DR. C. U.
ARIËNS KAPPERS, DIRECTOR

premises of Kappers' work. A second premise I might touch upon in my hasty review. This concerns itself with the development of a concept of structural evolution going on within the nervous system to which Kappers has given the name of neurobiotaxis and to which he has contributed a dozen or more studies. How have nervous structures come to arrange themselves as they have in the gradually increasing complexity of the animal phylum? This has been a question. Chemotactic theories relative to the positions of axon and dendrites were among the earlier types of solution before comparative structural facts were available. As these accumulated it was seen that displacements of ganglion cells and their groupings were very striking.

The chemotactic hypothesis (Cajal) does not seem to cover the situations and Ariëns Kappers made use of the term neurobiotaxis to envisage his newer concept. The process of displacement, as for instance of the cranial nerve nuclei in their phyletic series is not explicable, he shows, on plasmodesmic or chemical "forepath" hypotheses. One must pay more attention to the origin of the stimulus. Kapper's illustrations most convincingly show the gradual shifting of the oculomotor, trochlearis, trigeminus, abducens, facialis, glosso-pharyngeus, vagus, accessorius and hypoglossal nuclei. This shifting has taken place as the animals have evolved variations in ways of carrying on their biological functions.

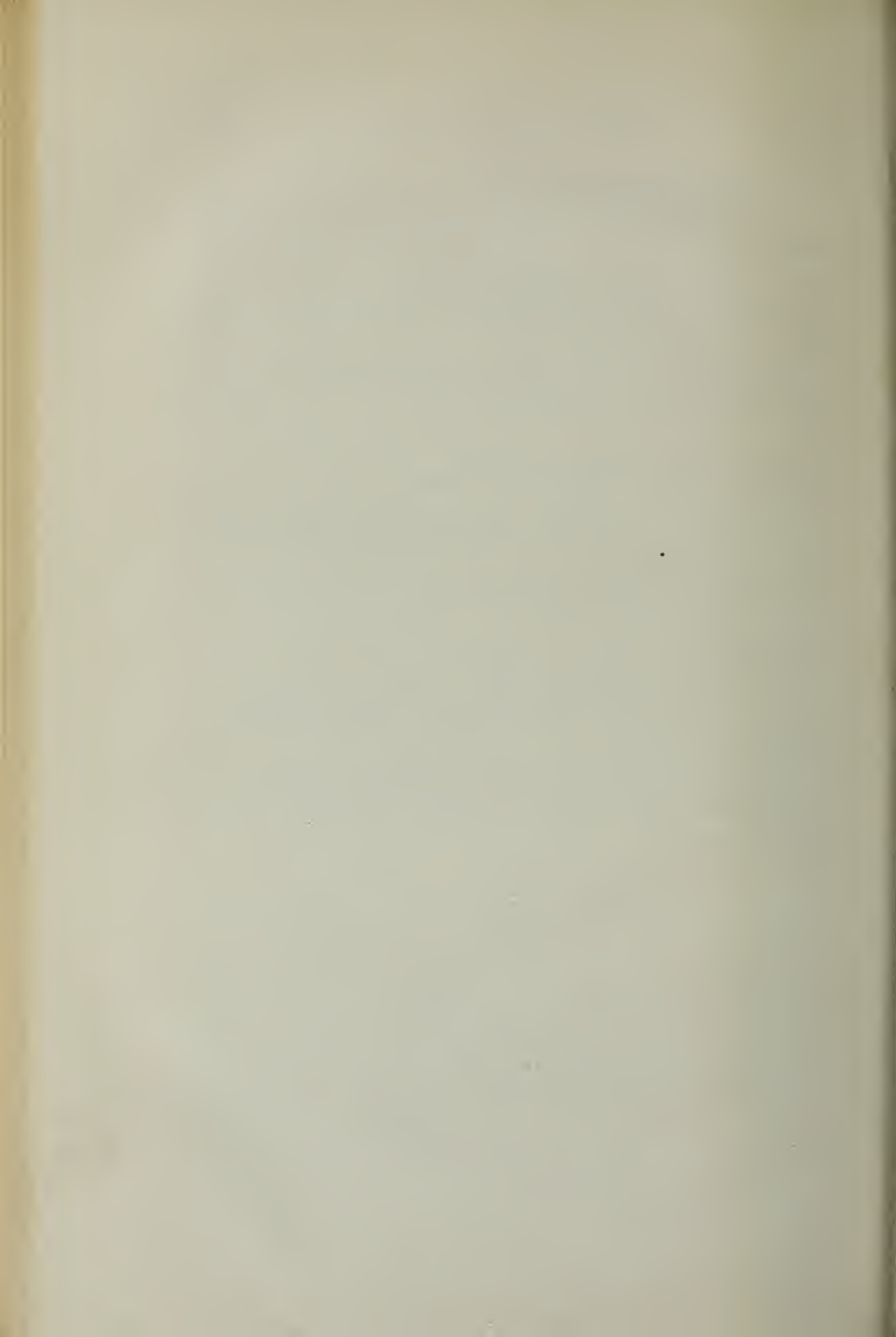
The details can not be entered into here (15). I can only report upon his conclusions, namely that the neurobiotactic phenomena are explicable only on the basis of ideas which have come to be formulated relative to psychological conceptions. In other words, as with Gaskell, who it will be recalled said that "from below up we can only guess, from above down we can interpret," so Kappers states that the psychological, *i.e.*, advantage of the whole animal as a unit in his adjustment to his environment [head end stimulus] follows psychological laws. This is another way of saying that function is primary, structure secondary. They are coördinates, but the structure can be made to change in view of the *wish* or the *need*.

My time is up and I regret that I must leave you at this point with but a partial glimpse into the entrance gateway leading into many pathways of interesting research in this small but productive country. I have time simply to mention a few of the active workers, many of whom have given enduring contributions to the special field of our interests. A discussion of Brouwer's work could easily occupy an evening. As clinician, anatomist, pathologist and teacher he occupies a unique position and well merits his election to the chair of neurology so honorably filled by Salomonson. Psychiatry as represented by the Boumans, of the same name but not related, is being actively advanced and from the various institutions scattered throughout Holland, masterly scientific papers are being produced. The work of the Boltens on the vegetative nervous system is also worth a word, but I must stop, rather abruptly, with the hope that I may at some future meeting supplement this introduction by a more even presentation.

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PALEOPSYCHOLOGY¹

A TENTATIVE SKETCH OF THE ORIGIN AND EVOLUTION OF SYMBOLIC FUNCTION

BY SMITH ELY JELLIFFE, M.D., PH.D.

First Paper

I. THEORETICAL CONSIDERATIONS

The general energetic hypothesis that man, as well as every other form of living matter, is a mechanism, or a system of mechanisms through which the capture, transformation, and release of energy takes place, is one that has come to be universally maintained.

The energy comes from the Cosmos. It is captured by means of specific energy receptors which are found throughout the entire body. These specialized portions of the body, external as well as internal, have come to be what they are through countless millions of years of adaptation. These receptors are numerous. It is a kindergarten type of physiology to speak of the five senses. Anatomical research has revealed a score or more specific energy receptors and is constantly describing the histological details of others as such methods advance and the concept of specific energy receptors becomes more widely applied. It is equally, we submit, an inadequate physiology that conceives of chemical food stuffs as the only or the chief energy captives that run the human body. The calorimetry energy measurement concept, while perfectly valid within restricted limits, is utterly inadequate as a concept to measure total energy interchange values for human beings and human society.²

Energy, as light, beats upon the optical receptors, upon other pigment receptors of the skin, and still other pigment receptors

¹ Outline of paper given at the American Psychoanalytic Society, May, 1922, Washington, D. C., and New York Psychiatric Society as Presidential Address.

² Linhart, G. A. Free Energy of Biological Processes. *Jl. Gen. Physiol.*, January 20, 1920, ii, 1920, 247-251. Sheldon, W. H. Is the Conservation of Energy Proved by the Human Body? *Jl. of Philosophy*, 18, 1921, 589-600.

found in other internal structures of the human body.³ Thermal stimuli equally are being caught by specific receptors. Gravity stimuli have built up the special types of bony and muscular structures voluntary as well as involuntary for various adaptive needs. Barometric stimuli have conditioned skin and lung structure; and the composition of dissolved gases within the bodily fluids, with their physicochemical tropisms, are fixed in response to centuries of such influences [Henderson]. Sound receptors have their specific characters.

Fragmentary histological features of many of these receptor types are fairly well known, but when one turns to specific chemical receptors, such as those found in the gastrointestinal tract, the liver, the lung, the pancreas, the endocrine glands, histological science is only just forging the way. The receptors for compound neurochemical stimuli, such as those for the hormones, are also slowly delivering up their structural secrets, and the connection pathways, by which organic synthesis is made possible, are but feebly glimpsed in the general scheme of the organism acting as a whole.

These various specific energy stimuli have been influencing structure and function for millions of years. The stimuli have been caught in greater and greater amounts through the advancing organization and synthesis of tropistic and taxic response which through a masterly "storage" in phyletic cellular memories [the Engrammes of Semon] has finally resulted in the mechanism of mechanisms, still pathetically imperfect. MAN.

It is not the purpose of this sketch to follow out the lines of research concerning the structural variations, the functional capacities, nor the integrative organization of these aggregates of possible dynamic transformation products, that of the proteids alone constituting a million metamorphoses. Even the general outlines of the more precise mechanics of these transforming processes are lacking and all of our hypotheses concerning neural integrative factors are but a fragmentary series of the most daring speculations.

Finally we shall not attempt to state by what precise machinery the *delivery* of energy in this interchange takes place further than

³ Secerov. Licht, Farbe und die Pigmente. Vorträge und Aufsätze v. Entwicklungsmechanik der Organismen. No. 18. Also contributions of Bloch on Melanins, light stimulus and adrenalin relationships. See Jelliffe and White. Diseases of Nervous System. Edit. 4. Skin Syndromes. White. Mechanisms of Character Formation.

by generalizing upon two large energy system outlets: (a) the metabolism of the body (self-preservative instinctive integrations), and (b) social conduct.⁴

Everything that comes in must go out, sooner or later. The human being is a transformer. It manufactures no energy. Its chemicals are its transforming apparatus; the materials over which and through which its transformations take place. They are not its sole stimuli sources. They are chiefly the body's wires, its wheels, its gears, its driving rods, its purely structural units, the workings of which we call behavior, metabolic or social.

For the purpose of this sketch, however, I do purpose focussing attention upon one type of stimuli, and wish to advance some general remarks concerning the organization through which such have gone, and, moreover, I would attempt a general outline of a point of view which it is believed offers a pragmatic outlook upon a wider understanding of human behavior with a consequent gain toward its better adaptation in daily living.

It is to the *sound stimuli* that I would direct attention. These, falling chiefly upon the organ of Corti, function for at least three separate and distinct, though integrated, purposes: By means of purely physical processes the metabolic upkeep is conditioned; through sensorimotor organization adaptive phyletic memory tropisms become effectual, and finally through symbol development new dynamic quantitative reactions become possible, imparting increased significance to the receptor mechanisms, causing vastly greater work to be put upon the transforming machinery, and finally affording a larger delivery capacity.

It is here emphasized that through the gradual evolution of the *symbol*, in speech or other form, new energy containers of enormous potential have been evolved, and that one of the most marked advances in the *human machine* capacity over those of all other living energy systems is registered through this new working tool, *human symbolism*. Through it, larger energy intake, greater transformation necessity, and increased delivery is realized.⁵

⁴ Sherrington. Some Aspects of Animal Mechanism. Science, September 22, 1922. Integrative Action of the Nervous System. 1906. Kappers. Vergleichende Anatomie des Nervensystems. 1920. Winkler. Le Systeme Nerveux. 1919, 1920. Bechterew. Reflexologie. Zeit. f. d. g. N. u. P., 80, 1922, 265.

⁵ Jelliffe. The Symbol as an Energy Condensor. Jl. Nerv. and Mental Disease, December, 1919.

If we hold, with Bergson, that the "heaping up of the past upon the past goes on without relaxation"—that, "when man has accumulated so much past that he has no room for any future, he is dead"—then death, partial (as disease) or complete, means such failure in our energy delivery systems that we are unable to unload our phyletic memory accumulations. We can no longer reorganize, resymbolize our past experience into newer symbolic deliveries.

Much of this has been said before. All that this argument would attempt to formulate in this field is that through the gradual developments of phyletic sound tropisms organized in the nervous system, as a whole, one has come to speak of certain aspects of the human functions which have come to be investigated under the general conception of "psychology."

This present formulation would outline a special field in psychology which has come to mean much for the students of psychopathological phenomena. We purpose naming this *paleopsychology*, meaning by this, that, as in the history of past ages, plants and animals lived and played a major part in the phylogeny of living forms, their study constituting the sciences of paleobotany and paleozoölogy, in an analogous manner the phyletic development of the symbol as an energy container and energy deliverer pushed this race or that race along the path of advanced organization with greater capacity to live and to live more widely. The dynamic capacity of the symbol, to realize, to recombine, to reconstruct, to resymbolize the past for greater potential, is the guiding principle of teleological value in tracing back the adaptive capacity of symbols at different phyletic levels.

If one states that it was through greater brain capacity that the human phylum came to be, then it is stated, in terms of this sketch, that it was through the greater capacity for phyletic organization of symbol intake and symbol outgo that has and shall determine racial advance, as well as individual health and happiness.

A science of *paleopsychology* then is posited with a positive practical program.

While it may be freely admitted that it may be in the situation that paleobotany or paleozoölogy were, not many years ago—before the work of Brogniart, the father of paleobotany, for instance⁶—still there are enough evidences to show that such a science has

⁶ Berry, E. W. Paleobotany, Smithsonian Collection, 1918. Boule. Les Hommes Fossiles. Masson, Paris, 1921.

become a possibility since the practical investigation of the unconscious has become feasible through the work of Freud, Bleuler, Jung, and the psychoanalytic school.

The first crude gropings for principles through which such a science may be organized concern themselves with the notions of *Conscious* and *Unconscious*. Here one meets with difficulties of formulation in a dynamic living organism which are not paralleled in a more static museum sense, along which lines the formulations of paleobotany or paleozoölogy first arose. Even with these latter the principle of inner functional organization has come to be utilized in determining phyletic affiliations, and in understanding the rise and fall of animal and plant groupings—so shall we seek for some such similar group of principles from the philological, the pedagogic, the psychiatric, and psychoanalytic disciplines, respectively.

The difficulties are great, the hypotheses speculative; yet the material is ample, and the need imminent.

The principle of the inner functional capacity of the symbol in its energy potential, that is, the depths of its application to handle libido for the gratification of the bodily cravings, is one of the first ideas to which attention may be drawn. Much as I should like in this place to discuss the general principles which have been elucidated as working hypotheses to understand symbol building, I must be content to refer simply to the work of Jung, of Silberer, of Schlesinger, of Jones, and of others mentioned by these writers. Freud's own studies on the dynamic outlet capacity of Wit should also be here considered and the whole general aspect of the Freudian theory of repression as contributing to the mechanism of symbol formation. I believe one should include the mechanism of the dream formation in its teleological prospective aspect as elucidated by Jung and Maeder, which is of cardinal value in bringing together the general conceptions underlying the whole process of the Unconscious.

All that we wish to say is a bold statement that in the Personal Unconscious, and in the Collective Unconscious (Mneme of Semon), one may find in the dreams of human beings, as well as in the consciously held beliefs (Symbolic Values), of differing people, symbols that are functioning for the individual at different phyletic levels—some older, some younger. Further, the general hypothesis is advanced that with that degree with which an individual attempts to utilize a symbol at a phyletic functional level incongruous with or illy organized with the action patterns of his general organization,

such an individual is in conflict, and will show a breakdown somewhere in adaptation either recognizable at a metabolic, sensorimotor, or symbolic level.

The former is what is called a constitutional disease; the second causes gross variations in adjustment of means to ends; the last results in one of the milder or severer grades of neuroses or psychoses. With the first, general medicine is primarily interested, and social and political factors deeply involved. The second type of behavioristic reaction constitutes that which in the main we designate the average life of the community. The principles of a sociology formulated upon the general ideas here outlined, as a contribution to the underlying difficulties that people have in adjusting their receptors and effectors along adequate lines, we believe would be very illuminating. Certain indications that such study has begun may be found in recent sociological studies. (Freud, Parker, *et al.*)

Finally, there are the problems of the neuroses and psychoses. Apparently they are but a small part of the whole, but so far as now conceived they afford the material in which the psychological fossils, and the workings of the machinery concerning which this sketch points a way, are most in evidence.

As one would not spend much time, *i.e.*, profitably, on Manhattan Island in paleobotanical or paleozoölogical research, so in general one will not spend much time with the *Conscious* of the average individual with the hope of obtaining much material for paleopsychology. The chief field for the richest deposits, for the richest paleopsychological horizons, may be found in those museums for intensive work, the mental hospitals. In the language of this sketch, one may here find all kinds of thought-fossils, thrown helter-skelter from a variety of paleopsychological horizons, from the highest to the lowest. Psychopathology, then, is the field in which one should for a time study to get acquainted with the obvious horizons, the tentative laying down of which we shall here later attempt.

As one slowly traverses mile by mile the flattened horizons of the earth's shell on the Santa Fé Railroad on his approach to the Grand Canon, and when there, at one sublime glimpse looks into the depths of the millions of years of formation of that same shell crust, so, in contrast to the illumined glimpse into the racial history of the human psyche as revealed at once in the psychotic attack, the student of the unconscious, in the average individual, must patiently labor month by month to get an inner view of the integrated personality. The

human individual, sick or well, is the same, just as the earth's crust in its two views just outlined is the same.

But since from time immemorial the thought life of the mentally ill has been compared to the dream life of the average individual, here in the dream world is another profitable field in which to make comparisons and to attempt to draw working conceptions. It is here that the technique of psychoanalysis affords the greatest help. There is no field of human activity whose symbols are not capable of a similar type of appraisal from the standpoint of an understanding of their functional value. This technique of psychoanalysis, like the early paleobotanical technique is still crude, that is, in terms of exact measurement such as may be said to be applied to the science of physics, for example.

Another field for research lies in the history of institutions, of customs, of laws, of language itself. In Anthropology, Ethnology, in Archaeology, in the studies of comparative Philology and of History in the large, one must look for the evidences of mental evolution and of conditioning mental methods for behavior which are of functional value for the individual. Just how this material is to be utilized to the best advantage: by what conceptual tools these accumulated masses may be made serviceable can not just now be pointed out completely. In Jung's *Psychology of the Unconscious*, Silberer's *Mysticism and Its Symbols*, Fraser's *Golden Bough*, Freud's *Totem and Tabu*, Rank and Sachs' *Significance of Psychoanalysis for the Mental Sciences*, are outlined now here, now there, certain features of this aspect of the problem which center in the conception of a Paleopsychology. The entire world's literature, modern as well as ancient, serves as a background for this material and for the conception here sketched.

With this general formulation there can be but little quarrel. It is only the old idea of recapitulation as applied to mental structures, for it is here assumed that one can speak of functional structuralization (action patterns) just as truly as of material structuralizations (organ patterns). But what I wish to advance as a new idea of practical value, or if not new, would emphasize as my belief that through the better understanding of and more careful study of the structure of functioning symbols in the phyletic formation sense, *i.e.*, the paleopsychological horizon to which they belong, highly important energetic functions may be revealed. That is, we may have a new method opened up by which psychological tension may become, not a general

term of description, as Janet uses it, but an actual dynamism capable of being measured in a new way. If such a notion be valid we may have a new key to the unlocking of many secrets of dynamic relationships of the physicochemical forces implicit in the metabolism of human beings.

Ever since mankind began to formulate concepts at all, emotional reactions in quantitative energy terms have been formulated. Even the lower animals registered differences in their reactions to inimical environmental factors by quantitative variations in their postural tensions. The whirr of the rattlesnake's rattle was higher and more intense in proportion to the grade of danger; the hunted animal showed its teeth the more distinctly; the tensions were quantitatively registerable by ordinary factors of observation. This is a commonplace and hardly needs elaboration. The newer work of Pavloff, Cannon and others simply carried the obvious a little further into other activities which required more intellectually worked-out methods of observation. No new concepts were reached; old concepts were simply widened as to their range of action and what might have been inferred—and was on *a priori* grounds—that the affective reaction causes changes everywhere throughout the organism, for the organism is a unit, and change in one series of activities means adaptive reactions throughout. These studies simply carried the natural historian into the laboratory and offered a series of partially measured phenomena to stand as partial records of a series of reactions. Thus the greater the fear in Cannon's cats, the greater the range in metabolic variation, be it measured by one series of semi-constants or another.

It is not the place to catalog here the various attempts that have been made to measure these psychological tensions, either in kinetic terms by various tambour or other brass psychological instruments, through variations in blood pressure, or urinary secretion, or in terms of psychogalvanometer, or by pharmacological measuring schemes; these schemes have been numerous and the literature is bewildering. I shall not attempt to cite any of it, valuable though it be, and even though the time may come when many of the measurements so carefully gathered, and voluminously recorded, will be found to have a place and significance when less fragmented and more unitary conceptions become available.

One very important truth, however, emerges as one goes through these very extensive researches and that is that emotional stimuli

cause reactions as definite as physical agents. Fear, hate, rage, love, act upon the bodily structures just as strychnine, mercury, heat, light or other agents; they vary solely with reference to intensity and as to their localization.

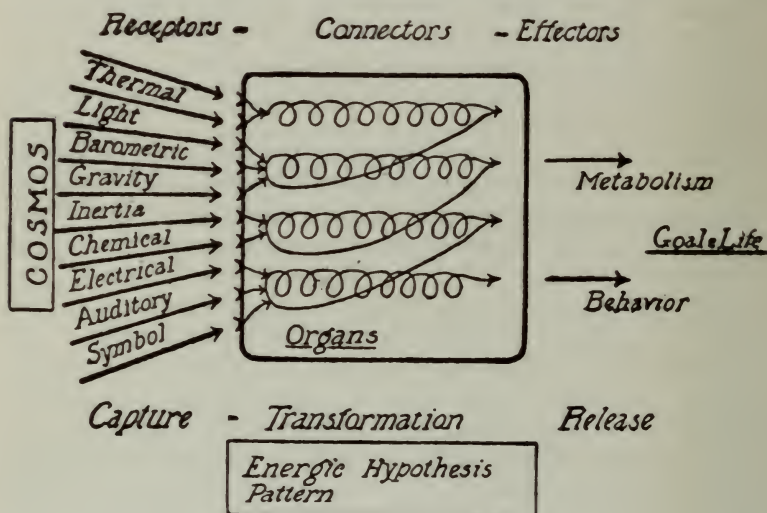
Fear, hate, rage, love, however, when viewed from a phyletic point of view, are symbolic functions of enormous complexity and with long histories, with death and growth behind them as ultimate foundations. These symbols may act as acute passing stimuli, or they may be continuous. They may be known, partly known, or unknown, shading from vivid awareness to the absolutely unconscious, as black may shade through grey into white. And it is to the significance of symbols in the Unconscious that the present paper would call attention.

Symbols have a phyletic history. They are ever functioning. They produce results acting as stimuli; functioning as effectors they discharge tension and are physiological requisites. They become structuralized with different grades of complexity which are related to their functional capacity. The older the symbol, remaining in its primitive phyletic form, the greater its dynamic content and the greater the affective tensions consequent upon its utilization. The presence, then, of old symbolizations in the present working machinery is an index of specific affective tensions requiring specific symbolic functions at certain stages of their capacity.

We therefore would attempt a science of symbolic functioning, in its paleopsychological aspect, and endeavor to construct, even though crudely, some of the paleopsychological horizons, and, though but faintly, indicate certain correlations which may be drawn between disease in the human machine and the presence of these thought-fossils.

Present day pathology knows no essential differences between mental or bodily disease. A constellation pathology posits that the organism works as a whole. Whether it limps at a physicochemical, sensorimotor, or symbolic level is a matter for later consideration. The discharge mechanism is at fault, no matter where the rent takes place. There are reasons for selection, and these are of intense importance, but they constitute another phase of the problem, although I believe we may be able to state that there may be correlations found between the symbolic functions, the level of the disturbance, the localization, the intensity, and even the specific nature of the disease process.

It is recognized that when it comes to a formulation of these paleopsychological horizons we are as yet dealing with a concept behind which there are undoubtedly innumerable facts, but as yet they are very imperfectly codified. In giving them labels it is again evident that one must feel one's way, and in endeavoring to outline the general fauna or flora of a time one is again attempting to tread on ground which is still far from solid. Yet such considerations have attended all formulations—the building up of our concepts



regarding the blood traversed such difficulties and is still far from being on absolutely firm ground, beyond a very few simple morphological inconstants.

We shall follow the first general indications of Freud in our preliminary scheme of the various symbolic horizons.

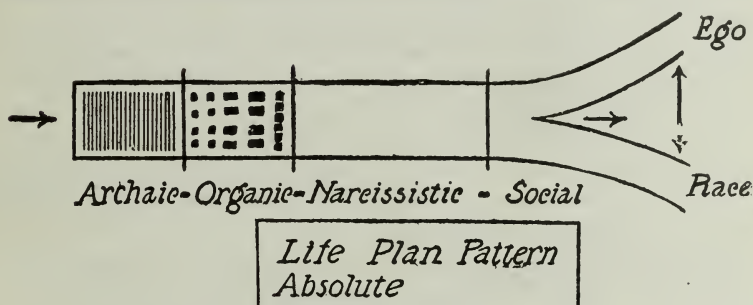
What has been rapidly sketched here may be reduced to a few graphic illustrations, the simplicity of which gives evidence of their inadequacy to handle the problems entirely.

If one follows this general formula one perceives that the push from behind forces the organism along. It can be stated that there is a goal, that is the continuance of life. If Creative Evolution (Bergson), Emergent Evolution (Morgan) is to take place, then the accumulating experience of 100 to 1,000 million years urges the organism onward toward greater capacity for energy intake and

hence greater delivery capacity. The roadbed laid down, *i.e.*, the mneme, the habits of reactive capacity are strongly channeled (teleology, entelechy).

Throwing this into a flowing form and dividing it into epochs we have:

Here the process is divided (1) into an intrauterine recapitulation of the entire life process, chiefly recognizable through the structural emergence of organ patterns. The organized cellular patterns come up through their phyletic stages. In nine months one



billion years is traversed. From protozoön to man, in one majestic sweep, creation shows its handiwork. With the theologians one may call it God, it is only a question of terminology. No name ever will be adequate to express the facts. We shall speak of this whole period as the Archaic.

A second period, which in the individual life may roughly be put as from one to seven years of age, is one in which an organ adaptation, or organ rivalry may be predicated. Inequalities here bring about far-reaching imbalances in organic adaptation to stimuli. We purpose calling this the Organic period. In time it recapitulates 100 million years.⁷ In the language of recapitulation it is roughly paralleled by the data of anthropology sweeping in a general way from *Homo heidelbergensis* to *Homo sapiens*.

A third period, which is roughly inaugurated by an integration of the personality, we shall speak of as a Narcissistic period. Through it there gradually develops the direction of life's energy from purely personal goals to those of more definite social ones. It

⁷ In human pathology inadequacies found in this sphere—idiocy, imbecility, can profitably be studied through comparisons in the zoological phylaxis. See De Jong, JI. N. & M. Dis.

represents from 7-14, a recapitulation of 1,000,000 years. The new habit values assert their mastery and lead us into a fourth or Social period. The fourth or Social period represents a recapitulation of the past 100,000 years in which our veneer of civilization has only commenced to acquire the slightest degree of fixation. Here the value of the life force is seen in its direction to socially valuable ends (as judged by the unconscious symbolizations, not by conscious insular ethics).⁸

Throughout all of these periods this sketch assumes that the ego-serving engrammes and the race-serving engrammes are in a more or less competitive and balanced relation. But the racial teleological thrust has the "jump," as it were, and determines the capacity for completer development. Self-Preservation is *not* nature's first law. Race Propagation is the successful rival, a principle fought out away back in the remotest past, and self-perpetuation, *i.e.*, reproduction by splitting, became lost through reproduction by amphimixis. The old time rivalry, however, as expressive of the general law of opposites, born in the physical womb of action and reaction being equal and in opposite directions, and always occurring in pairs, is carried out in this large Hegelian opposite of *self* vs. *not self*: Again the theologians' "He who would save his life must lose it" becomes quite comprehensible.

Ego impulses and race (sex) impulses, then, are competitors as well as coadjutors. One cannot exist without the other, but in order not to be caught on dead center, as it were, the sex impulses are always in the foreground. *We are here solely concerned with the unconscious mechanisms and are not talking of what is narrowly conceived of as sex.*

Then another diagram may be introduced to make clearer the absolute habit pattern for a successful evolution.

The goal, *i.e.*, race continuance—immortality of the phylum—cannot be reached unless maleness finds femaleness—again a pathway of opposites—with well known attractions and repulsions, and unless the aim, *i.e.*, the supremacy of the genital zones be achieved.

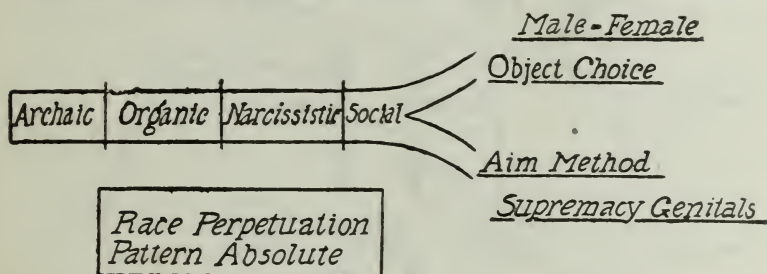
The uterus of the mother cannot remain the aim, notwithstanding its millions of years of conditioning; the various *organs*, at first the repositories of the impulse for emergent evolution, they cannot retain

⁸ Jelliffe, S. E. Psychopathology and Organic Disease. Am. Archives of Neurology and Psychiatry, 8, 1922, December.

this impulse, even though they may be channeled by it; the individual, the *Narcissus* cannot hold it, for by personal death alone can he live, in his descendants.

The phallus must be conditioned to find the vagina "*with creative purpose*"—if the final stage of *socialization of the libido* is to be reached. And here it must be emphasized again we are speaking of *inner intent, i.e., unconscious symbolization*, rather than the objective content, *i.e., the outwardly observable conscious acts*, with their chameleon-like Rationalizations.

These two large generalizations concerning necessary biological conditionings are *a priori* quite understandable. Were it not for the



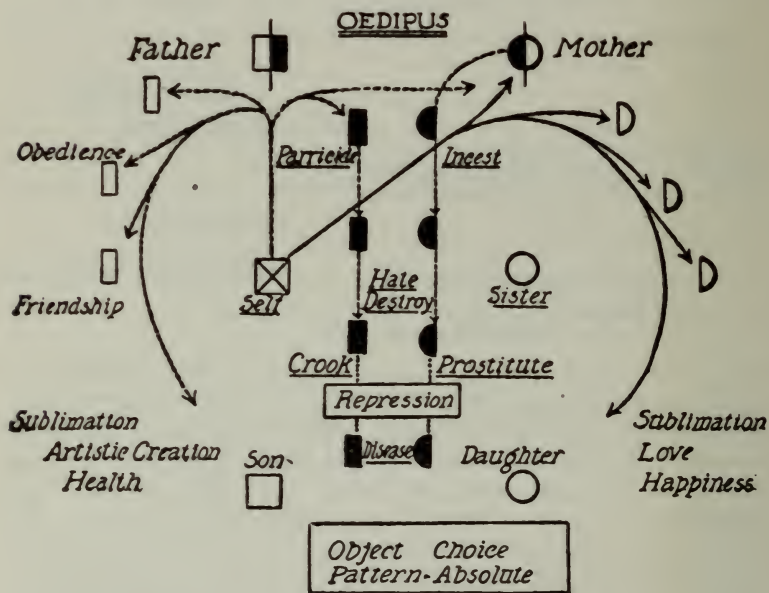
fact that ordinary observation shows hosts of outward modifications of these two habit patterns it would hardly have been suspected that such obvious necessities for habit pattern reactions in terms of structure and function could have been transgressed—yet, such has been, and is the case since the time of the worship of Baal and Astaroth, the days of Sodom and Gomorrah, even down to the present era of vaunted civilization and culture. In other words, deviations from *Object* and *Aim* (unconscious) enter into man's actions and ontogenetically acquired patterns (imitations of parents, academic misinformation, etc.) run counter to the habit pattern reactions which have had a thousand million years of trial and error testings.⁹

What has happened? Hosts of observers have noted the deviations in conscious activities; many have shrewdly divined less marked and less consciously valued deviations, but only a few have looked into the unconscious for the still smaller or slighter or quantitatively-

⁹ Bauer, E. Die Grundprinzipien der rein naturwissenschaftliche Biologie. Springer, Berlin, 1920.

less measure of conflict between individual and racial environmental conditioning. Here religion and theology behind the concepts of God and the Devil, Righteousness and Sin, Heaven and Hell, have anticipated by instinctive and intuitive processes, the biologist's still imperfect concepts of Life and Death, Construction and Destruction, Health and Disease.

The concept of psychosexual evolution and the valuation of its various stages in the individual as determined through investigation of the unconscious by the technique of psychoanalysis is Freud's



great contribution to this problem. From it flow scientific methods of interpretation of a dynamic pathology that offers striking correlations with the older instinctive wisdom and unconscious values roughly outlined in numerous parallel and conflicting religious and ethical formulations.

To understand properly the deviations in *object choice*, conditioned by conflicts between racial engram and individual experience patterns, in the various stages of psychosexual evolution of the individual, Freud has formulated the Oedipus concept. This hardly needs outlining before this society, yet I shall ask your consideration of

this rough schematic diagram which would attempt a partial visualization of the situation. I must remind the nonanalytically trained reader that this concept is one that deals with data which are accessible chiefly through the investigation of symbolizations in which unconscious processes are mainly concerned. The time has not yet arrived when he who runs may read, although there are evidences all about us that indicate that such unconscious processes produce metabolic and behavioristic reactions which are just as clear as the symbolizations.

This diagram calls attention to the racial habit patterns in which Libido seeks the heterosexual object and to the fact that the earliest individual experience conditioning is the mother or father respectively. This in terms of the *Paleopsychological Horizon* constitutes the *Archaic* or incest stage of psychosexual evolution. Complete or partial arrest of the individual at this stage means complete or partial Devil, Sin, Hell in religious formulations; complete or partial Death, Destruction, and Disease in biological formulations. The paleopsychological symbolizations in actual psychoanalytic practice deal with partial evidences only, since the individual, though partly destroyed and in some degree diseased, cannot show complete arrest and still remain alive. As I have intimated, partial mental death, as seen particularly in that which is conceived as Dementia Precox, or in deep regressive and dissociative phases of severe mental disease, or in severe, chronic metabolic disturbances, partly concealed behind such reactions as nephritis,¹⁰ cardiovascular aplasias or atrophies,¹¹ endocrine atrophies,¹² diabetes, rheumatoid arthritis,¹³ pernicious anemia,¹⁴ sarcoma,¹⁵ tuberculosis,¹⁶ psoriasis,¹⁷ carcinoma,¹⁸ epilepsies,¹⁹

¹⁰ See Jelliffe, Psychopathology and Organic Disease, Am. Archives of Neurol. and Psych., December, 1922.

¹¹ See Lewis, N. D. C., The Constitutional Factors in Dementia Precox, Nervous and Mental Disease Monograph Series, No. 35, 1923.

¹² See Jelliffe, The Psyche and Vegetative Nervous System with Special Reference to some Endocrinopathies, N. Y. Md. Jl., April 5, 1922.

^{13 14 15} Studies in preparation.

¹⁶ Jelliffe and Evans. Psychotherapy and Tuberculosis. Am. Jl. Tuberculosis, December, 1919.

¹⁷ Jelliffe and Evans. Psoriasis as a Hysterical Conversion Symbolization. N. Y. Med. Jl., Dec. 2, 1916.

¹⁸ Study in preparation.

¹⁹ Jelliffe. The Epileptic Attack in Dynamic Pathology. N. Y. Med. Jl., July 27, 1918.

multiple sclerosis,²⁰ and possibly many others—for I can personally speak of psychoanalytic investigations only in those here mentioned—these all have shown certain pathological deviations of *Object Choice* as registered in *Archaic* symbolizations, as judged by the Oedipus hypothesis.

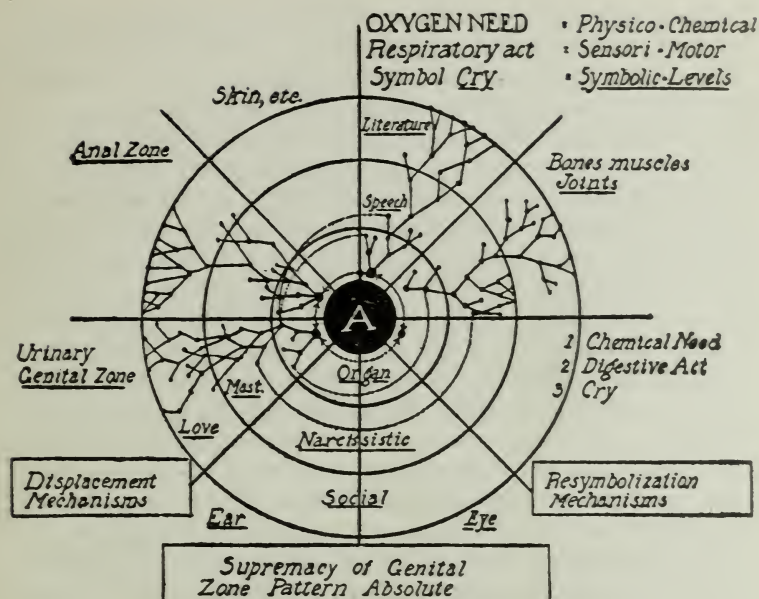
Here are registered, in more or less richness, the evidence that relates the possible correlations between disturbed habit pattern functions and the behavior (psychoneurotic and psychotic) and metabolic (organic disease) anomalies. These can be presented to the reading public in but partial fragments. To describe adequately and exhaustively the *Archaic* fossil fragments found in actual daily investigations would require a long time.

What is here held to be true of the lessons that may be learned from these *Archaic* symbolizations is also applicable to those found in later evolved Organ Erotic, and Narcissistic pattern symbolizations. Each stage of psychosexual evolution so far as *Object Choice* is concerned is capable of being divided into horizons with their more or less specific paleopsychological symbolizations. But lest I spend a lifetime in their elaborations, permit me to hasten to the consideration of the *Aim* patterns which are here roughly schematized.

Freud in his masterly "Three Contributions" has afforded a penetrating glimpse into the mechanisms which are operative concerning *Object Choice* and those which determine *Genital Zone Supremacy*. We have seen by what concepts the deviations in *Object Choice* may be mensurated. A much more difficult and subtle series of mechanisms is concerned when the *Genital Zone Supremacy* formulation is studied in the light of psychosexual evolution. Here are many most intricate problems which require much patient investigation to bring into proper correlation. Concerning these one can well understand why there should be so much misunderstanding and legitimate ground for differences of opinion among the most serious students of psychopathological problems.

That race propagation engrams should be resident in all the bodily tissues is not difficult to grasp if the idea of the unity of the organism be kept in mind. No one doubts that the complete oak tree is latently present in the acorn; why should anyone with any intel-

²⁰ Jelliffe. Multiple Sclerosis and Psychoanalysis. Am. J. Med. Sc., May, 1921. Jelliffe. Emotional and Psychological Factors in Multiple Sclerosis. Association for Research in Nervous and Mental Diseases. JI. Nerv. and Ment. Disease, May, 1922.



ligence deny the presence of the germs of all sexuality in the chromosomes, the embryo, or the child? Freud's fertile idea that all stimuli falling upon the various receptors may have erotic significance in the years of infancy, or even before birth, is not difficult to understand. It becomes simply a matter of fact to determine just how they become conditioned to individual environmental factors and build up what in the psychoanalytic terminology is termed the Complex Constellations which offer so many knotty problems for the analytic technique.

In the rough sketch here submitted are set forth some habit patterns with which the data of pathology are concerned. Attention is first directed in the diagram to the respiratory sector. Here at birth the sudden cessation of mother supplied oxygen calls for the emergence in ontogenetic experience of new activities. Oxygen need calls forth the initial protest in the cry. This at the same time releases and is a part of the respiratory reflex pattern activity. Satisfaction and life are made possible. Intellectually expressed, Jelliffe and White's three level notion comes into being. The physico-chemical need—Oxygen; the sensorimotor reflex response—Respiration; and the symbolic correlate, the Cry.

Let us leave this mechanism for a moment and consider a second of equal significance biologically. The machine needs other substances, chemicals, in order to operate. Their lack again calls forth the symbolic act, the protest, the cry, and the nutritive reflex pattern, sucking, swallowing, ensues and again satisfaction and life are gained. Again the three level arrangement is apparent. The physico-chemical need, twenty-eight chemical elements, food; the sensorimotor sucking, swallowing, gastroenteric intake, and the symbolic cry. This pattern is now duplicated in another series of segments, this time on the delivery side, in kidney, bladder function; and then again in colon, rectum, anal function. The purely metabolic aspects of the organism are now dealt with, it must be noted, with herd instinctive aids. Other receptor area intakes are now rapidly added as sketched in the diagram. Inhibition (physiological concept) or repression (psychological concept) now become apparent, and the new mechanism of *displacement* becomes operative. When, more in the jargon of the colloquial, the child learns that it cannot "holler and swallow" at the same time without danger to its continuance, the epiglottis mechanism enabling the swallowing and the breathing to go on simultaneously, a certain amount of displacement of craving is seen.

Every observant mother notes certain small indications of this displacement when the infant stops sucking, or momentarily halts its breathing as it urinates, or defecates, or strives to reach some other goal of pleasurable—i.e., lifegiving activity. Into adult life these displacements are observable, and even the academic psychologist tests out what he terms the "disturbances of attention," which are but more highly evolved evidences of the identical type of displacement mechanisms in which rival interests are made manifest.

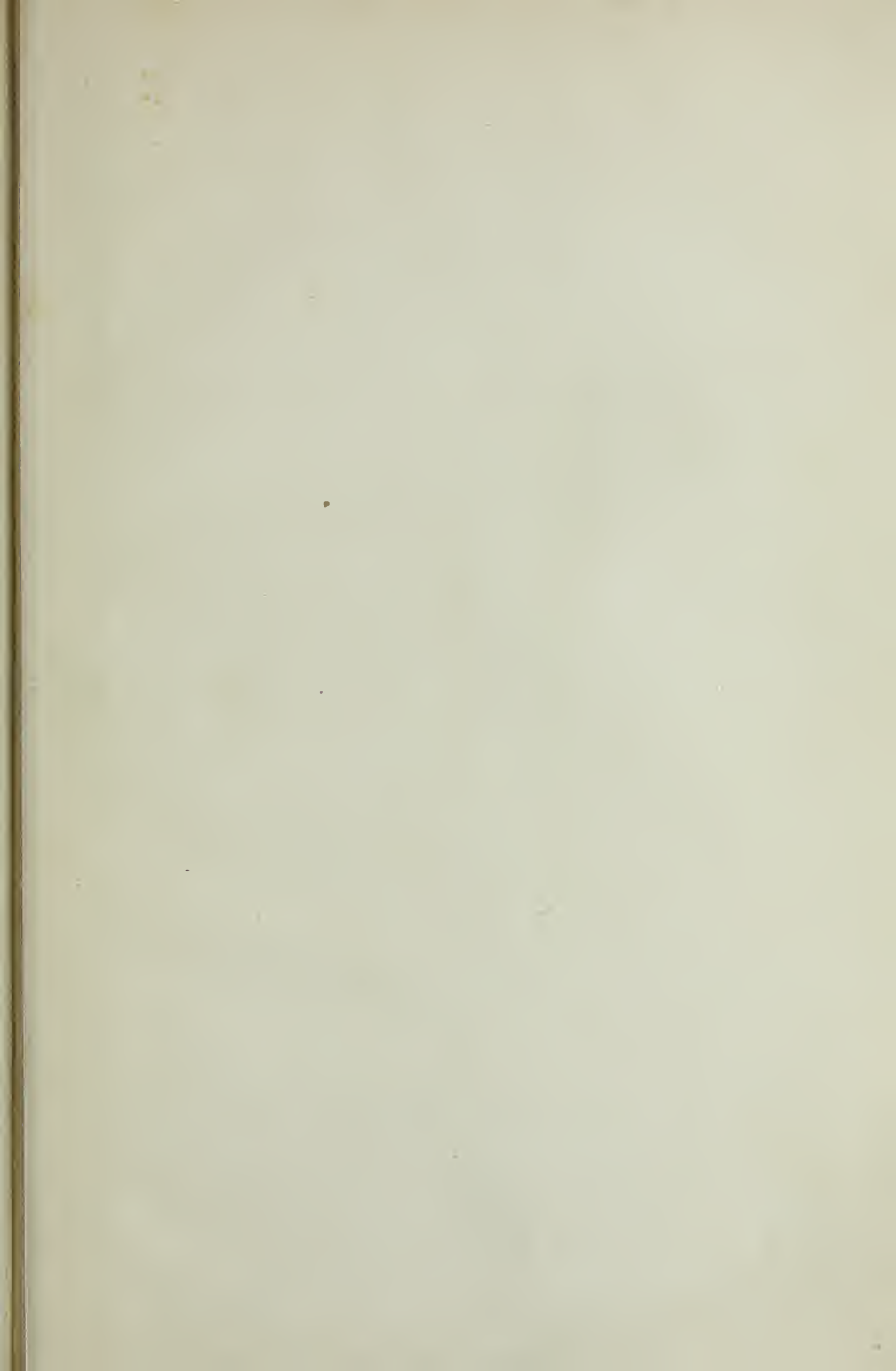
In the study quoted on "Psychopathology and Organic Disease" the hypothesis is ventured that much of what has been termed "constitutional disease" may be more adequately comprehended by means of the concept of "Organ Erotic" rivalry than by the generalization of constitutional or hereditary factors. The validity of the hereditary factor concept is not in the least denied. I merely state it to be my belief that it is only a one-sided activity and needs to be supplemented by the "organ erotic rivalry" activity. It is not inconsistent to admit an interaction between these factors. They are not mutually exclusive and constitutional hereditary factors (heredity) may be related hand in hand with organ erotic rivalry factors (psychological).

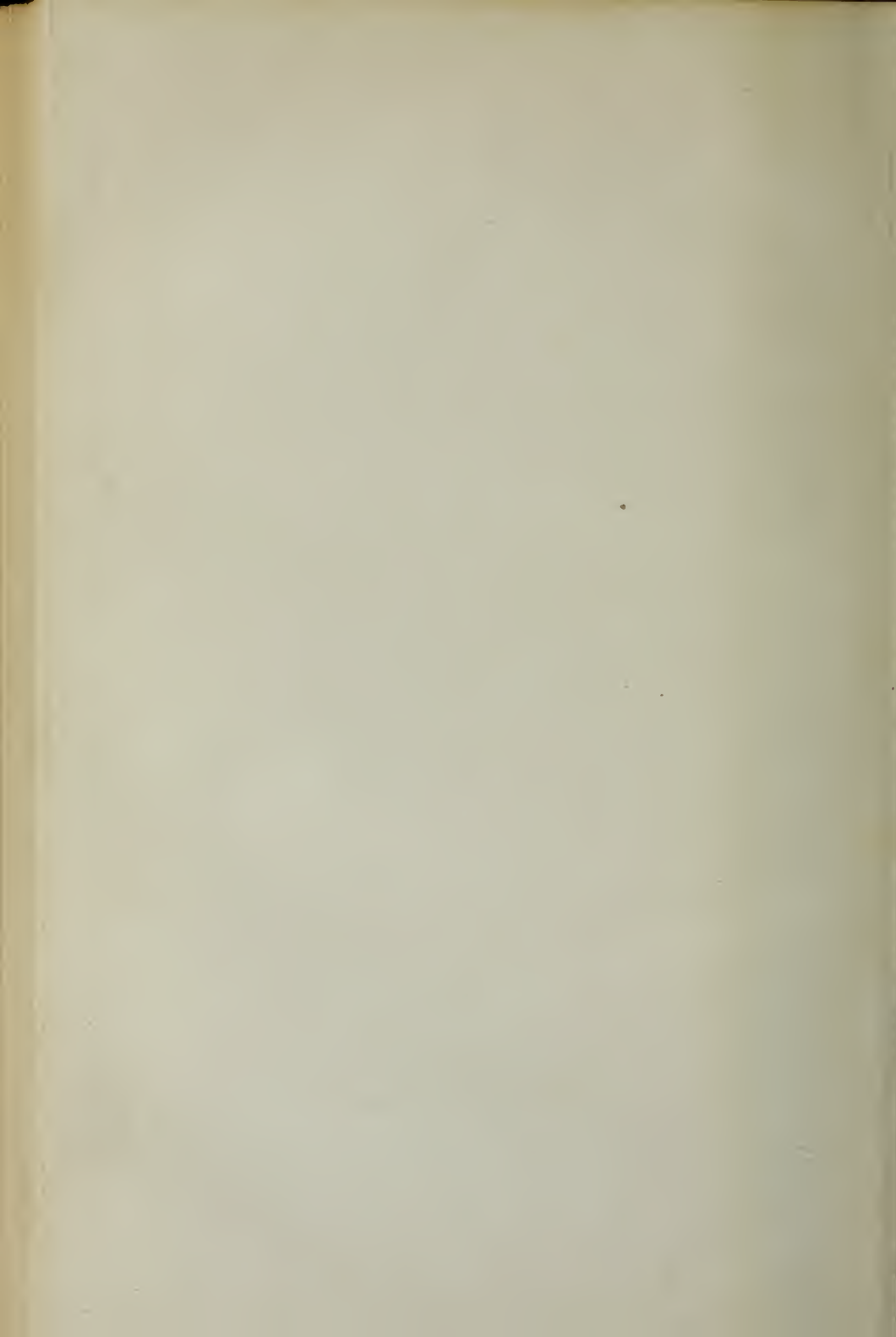
This terrain must be left to consider for a moment the evolutionary dichotomies of these primary organ erotic factors. The cry, originally invoked for oxygen or other chemical giving needs, undergoes rapid evolution and ultimately gives rise to speech. The monotype milk of mother evolves to bottle and cows' milk, milk and mush, milk and potatoes or cream of wheat or what not, and still some more. Urination has its pleasures and also its inhibiting discomforts when overindulged. Its skin chafings, its odors, its colors, its modes of compelling attention. Defecation soon passes from its delights of substance, of form, of color, of odor, of effort, to its more and more stringent restrictions, prohibitions, don'ts, punishments, banishments. Thus the dichotomies of various factors, their repressions, displacements, etc., go on as the more and more orderly rearrangement of the organ erotic rivalries fall into the mode of the family (mother-father) patterns.

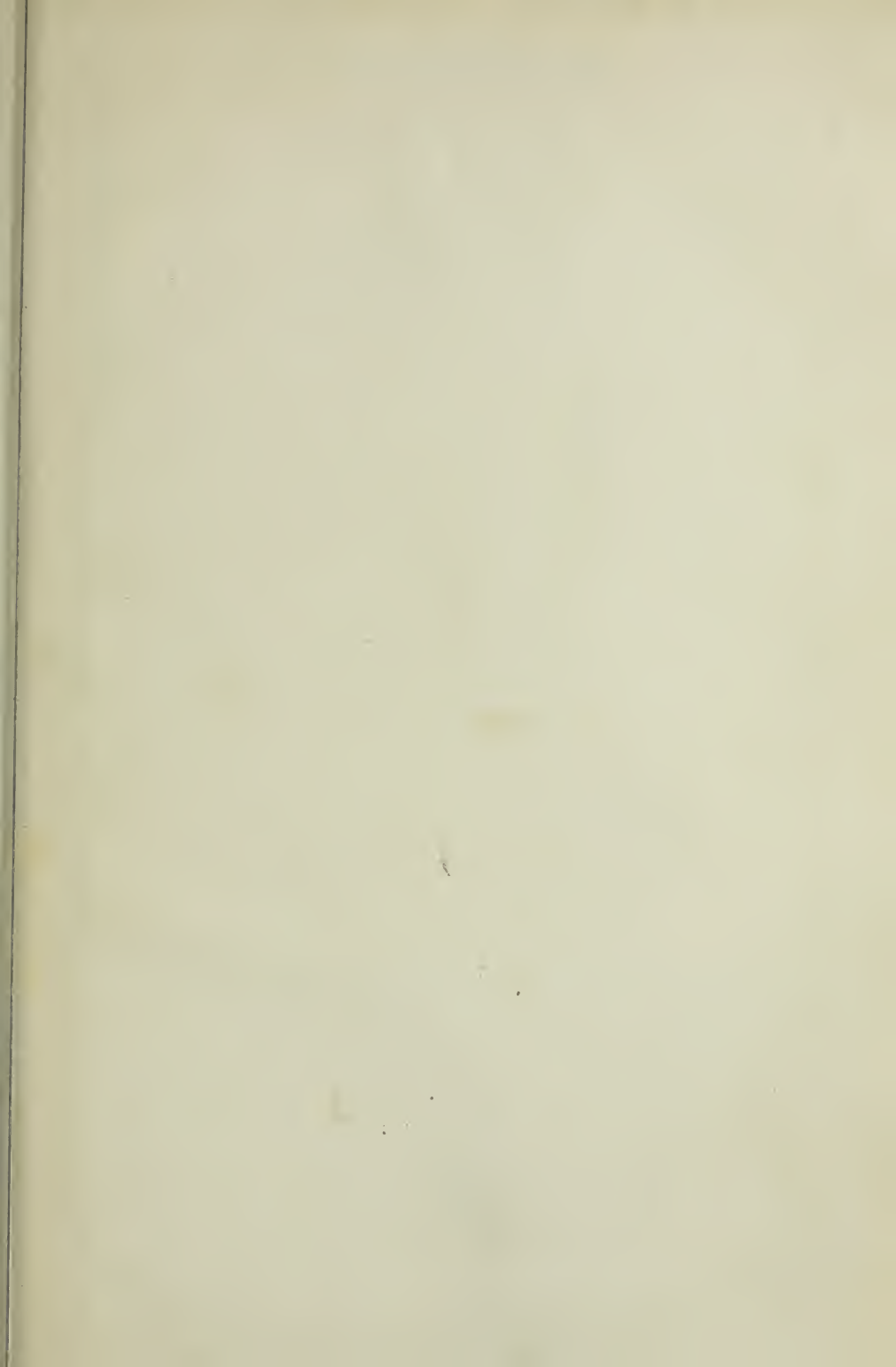
When we know more about *imitation* of father-mother patterns, I feel sure we will insist less about heredity, and pathology will take a more serious view of paternal and maternal responsibilities, as developers of diseased, *i.e.*, maladjusted patterns, and not seek to hide behind the vague and still hidden concept of heredity and constitution. When theology speaks of the sins of the fathers (and mothers) descending unto the third and fourth generation, it is an ingenious glossing of the situation to assume that the Hebraic prophets had an intuitive knowledge of the possibilities of a spirochetal infection. For myself, I am more than persuaded they were thinking of bad models, *i.e.*, poor biological conditionings, which imitated by their children were bound to result in disaster which hopefully by the third or fourth generation might be eradicated. In my clinical work I have seen so many neuroses which were exact replicas to the second, third and fourth generation that I feel assured that we as physicians cannot dismiss our problems by invoking Mendel or other authority to solve them. In saying this I am not unmindful of certain Huntington choreas which have been traced for ten generations, nor of the appalling number of valuable studies on genetics during the past twenty years with many of which familiarity breeds something more of sympathy than of contempt.

Thus, in outline, and all too hastily, an attempt is here made to sketch the general features of certain fundamental "mnemic" patterns which later will be illustrated by specific applications of the general theory.









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